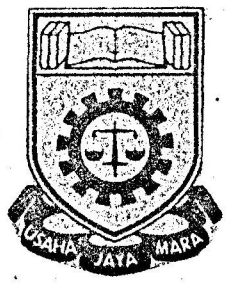


# INSTITUT TEKNOLOGI MARA

# practical training report

by :-

rosni and saizah

# UNIVERSITI TEKNOLOGI

# MALAYSIA

## student accounting system

dedicated to-

our mum, dad

and beloved

# PREFACE

It has been the objectives of the School of Mathematical Sciences and Computing to conduct a practical training for all her students. Diploma in Computer Science students, especially those in the second year ie. part four students did a month training during the term vacation. Whereas, the third year students ie. those in part five are required to undergo a three month practical training.

These students are sent to Governmental Sectors, Private Sectors, Firms, Universities and etc. to do their practical training. These sectors will then trained them on what they've been taught and new knowledge they need to know in relation to the course.

ROSNI & SAIZAH.

DEC 78 - FEB 79.

## ACKNOWLEDGEMENT

The help received from individuals is most gratefully acknowledged. However it is not possible for us to make particularly acknowledgement except to those whose contribution was substantial, many thanks; therfor to:-

1. Mara Institute of Technology.

2. The staff of School of Mathematical Sciences and Computing especially to;

   Encik Nasir Lanjong - Head of School.

   Encik Azizi Ngah Tasir- Course Tutor.

   and Mr, Pang Seng Liang- for his supervision during our training in UTM.

We also would like to thanks to :-

1. Dr. Noridah Hj. Ibrahim (Data Manager of Computer Centre of UTM.
   - for allowing and accepting us to do our training in her Department.

2. Encik Anuar Ma'arof (Senior System Analyst)

   and

3. Encik Ghazali Arshad (programmer)
   - Who guide and assist us in our assignments.

Lastly but not least, we would like to thank in particular the staffs of the Computer Centre of UTM for our delightful stay there.

Ros@Sal.

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# C H A P T E R  O N E.

# INTRODUCTION.

At the end of the three month practical training every student has to submit his/her practical training reports concerning the activities during the three month and will be required to present them to staffs and students of the school.

This report is about our training at University of Technology Malaysia. Duration is from 2nd December to 28 February 1979.

On the first day, we i.e Rosni Md Nor and Saisah Abdul Rahman were introduce to the Senior System Analyst of the Application side. He hereafter briefted to us the organisation structure of U.T.M. and Computer Centre as explained in Chapter 2 and 3.

Later, we were taken round the centre and introduced to all the staffs. System Analyst of the Operation side explained to us the configuration of IBM 370 model 135 as written in Chapter 4.

On the day itself, we were asked to do a simple COBOL program so that we are familiar with the system there. After a week, we attended a presentation made by one of the programmer. The presentation is about Student Accounting System. This is the system that are assigned to us. We are asked to modify the system since the programmer that are maintaining the present system faced a few problems.

During the presentation we took note on the problems and dificulties. In modifying the system we should try to overcome these problems. Within this we were also taught by our supervisor the concept of HIPO and DATA BASE using DL/I apllications, as our system include these two subjects.

It took us one month to fully understand the existing system and for the rest two month we concentrate on the modification of the system. We then presented our system to the staffs of the Application side. They point out their views on the system and we took note on the important factors.

Therefor after all the hard works we came to the conclusion of the modification as shown in the assignment proper section in Chapter 7.

==*==

# CHAPTER TWO

## ORGANISATION STRUCTURE AND BACKGROUND

### Establishment

UTM Has started the technical course since 1925 by the name of Technical School at Briekfield Kuala Lumpur. This Technical School purposely organise for Jabatan Kerja Raya.

In 1930 this school had become training centree for the staff from goverment sector. In 1946 the Technical School had changed name to Technical College. The construction of the new college has started at the present campus(Jalan Gurney) in 1951 and opened in Mach 1955.

In 1960 the college offered courses in Engineering at the professional level. Students were given courses to enable them to sit for professional examination of Institute of Mechinical Engineering United Kindom. The higher Education planning Comittee recommended Ehat the college be upgraded to a Technical Institution of University status beginning in 1969. However it was implemented only in 1972. The institution was then named University Of Technology Malaysia on April 1975.

### Organisation Structure

UTM was headed by a Cancellor Duli Yang Maha Mulia Sultqn Ismail Ibni Almarhum Sultan Ibrahim. Under the Cancellor there was a Pro-Cancel Pro-Cancellor followed by a Vise Cancellor Tan Sri Ainudin Abdul Wahid. Under him there were two Deputy Vise Cancellor. One is incharge with academic affair and another is incharge with Administration, Finance, Library, Computer centre, and Work Construction as ◻ shown in page 4.

Below are Department and The Head respectively.

| Department | Headed By | Name |
|---|---|---|
| Finance | A Treasurer | Cik Azizan |
| Administration | A Registrar | En. Azmil Hj. Daud |
| Library | A Librarian | Encik Shah Mohd. |
| Computer Centre | A Data Manager | Dr. Horidah Ibrahim |
| Work construction | A Director of work | Encik Hamzah Mohamad. |

UTM is having a total number of more than 1000 empioyees. The

UTM is having a total number of more than 1000 employees. The employee mostly are Malays ranging age group between 17 years to 50 years. The organisation chart will show how is the hierachical relationship.

## COMPUTER CENTRE

### Personel

The computer centre is headed by Data Manager Dr. Noridah Hj.Ibrahi Hj. Ibrahim. Computer centre can be devided into four sections.

| Section | Headed By | Name |
|---|---|---|
| Aplication | A Senior System Analyst | Encik Anuar Maaruf |
| Operation | ASystem Analyst | Encik Nazib Nordin |
| Academik And Research | A Senior System Analyst | Encik Kamaruzaman |
| Administration | A Administrative Assistant | Cik Lelawati |

By this time Computer Centre is having a total number of 35 employees .

| Post | Amount |
|---|---|
| Senior System Analyst | 2 |
| System Analyst | 6 |
| Programmer | 6 |
| Control Clerk | 4 |
| OPerator | 6 |
| Key Punch Operator | 4 |
| Stenographer | 1 |
| Clerk | 2 |
| Typist | 1 |
| Office Boy | 2 |

## Function Of Computer Centre

Being independent department, Computer Centre is directly under Deputy Vice Cancellor. It serves to many departments of UTM like Finance, Administration, Library etc. Finance use the service in order to process Student Accounting, Payroll etc. Administration use the service in processing Student Admission, Student Result. Other departments also use the service for their own project.

Beside giving the service to UTM, Computer Centre also provides the service to SOCSO, Jabatan Pertahanan Awam, Jabatan Perdana Mentri, Mardi and University Kebangsaan Malaysia. Computer centre sells computer times to Kementrian Pertahanan and Mardi. To UKM Computer Centre carry out the joint project of research especially in medical field. Computer Centre also involves in giving consultant to SOCSOand Jabatan Perdana Mentri.

At the present Computer Centre are processing systems like Student Accounting, Payroll, General Ledger, Fixed Asset and Student Admission. Some systems are under development stages and are to be implemented soon. The systems are Inventory Design, Library System and Time Tabling.

## Function Of Each Section

Application

Designing the system which is needed by other departments like Student Accounting, Fixed Assets, Library Circulation, Student Admission, Time Tabling etc.

Academic and Research

Responsible in teaching the students in computer science subject, beside that it also carry out the research.

Operation

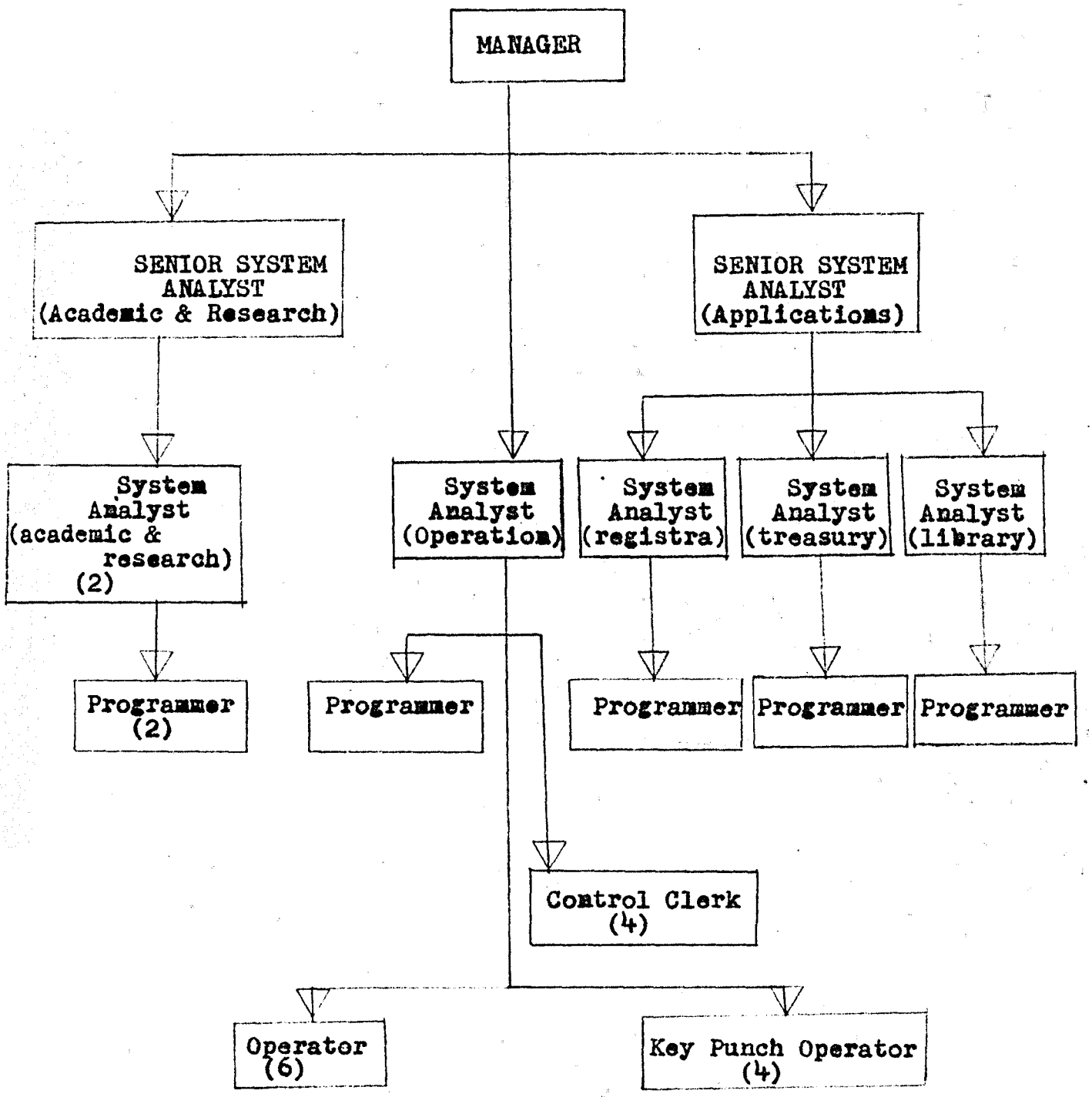
Incharge in maintaining the operation of the computer another words to ensure that the computer in a good condition.

Administration

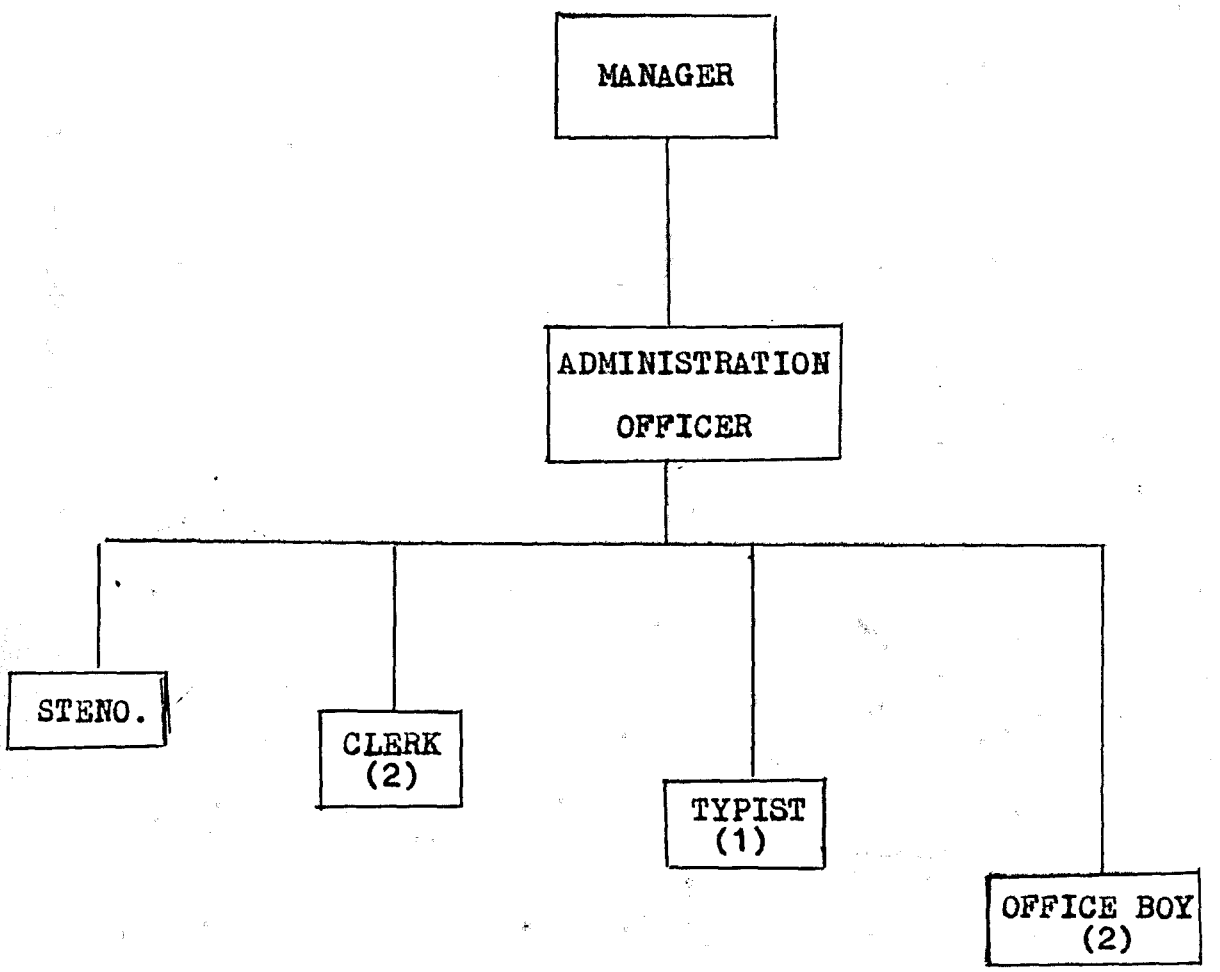
Is dealing with administrative work like maintaining the file, doing clerical work etc.

The staff in computer Centre especially in Application Section are attached tommany departments like Finance, Library, Administration and so on. Take example in Finance, 2 staffs here are responsible in designing and maintaining the Student Accounting system, which is needed by Finance Department.

# ORGANISATION CHART OF COMPUTER CENTRE



## ORGANISATION CHART OF ADMINISTRATION



# C H A P T E R  F O U R

## COMPUTER CONFIGURATION

The University Of Technology Malaysia Is having IBM 370 model 135. This type of computer had been installed for three years.

Following are the computer configuration.

| | |
|---|---|
| Memory Size | 512k |
| No. of dics drive | 6 |
| No. of tape drive | 2 |
| No. of printer | 2 |
| No. of local terminal | 4 |
| No. of remote terminal | 3 |
| No. of card punch and verifier | 6& 1 |

### Hardware

C.P.U model 135 core memory 512k.

Printer

a) Model 1403 can print 1100 lines per minute. can have 132 characters per line.

b) Model 3286 for virtual machines, quite slow compared to previous model.

Card-Reader

Model 3505. Can read 1200 cards per minute.

Card-Punch

Model 3525, can punch 100 cards per minute. Print the character 25 lines per minute on card.

Tape-drive

a) Model 3411, transfer rate 40000 bytes per second. Can only read the tape with density of 800 bit per inch or 1600 bit per inch.

b) Model 3410 transfer rate 40,000 bytes per second. Can only read the tape with density of 1600 bit per inch.

Disc-drive

Model 3340, can only read the disc pack with 70 million or less byte data.

Terminal

a) Local terminal Model 3277. THis type of terminal is direct to system.

b) Remote terminal Model 3275 via MODEM(transmitter) transmit from terminal to system and system to terminal.

Software

DOS/VS

Disc operating system/virtual storage. Using batch processing multiple partition.

CICS/VS

Customer information communication system/Virtual storage. Running under DOS/VS. Access data base on line.

Compiler

FORTRAN COBOL, ASSEMBLER, and WATFIV.

# C H A P T E R  F I V E

## HIPO FOR DEVELOPING SPECIFICATION

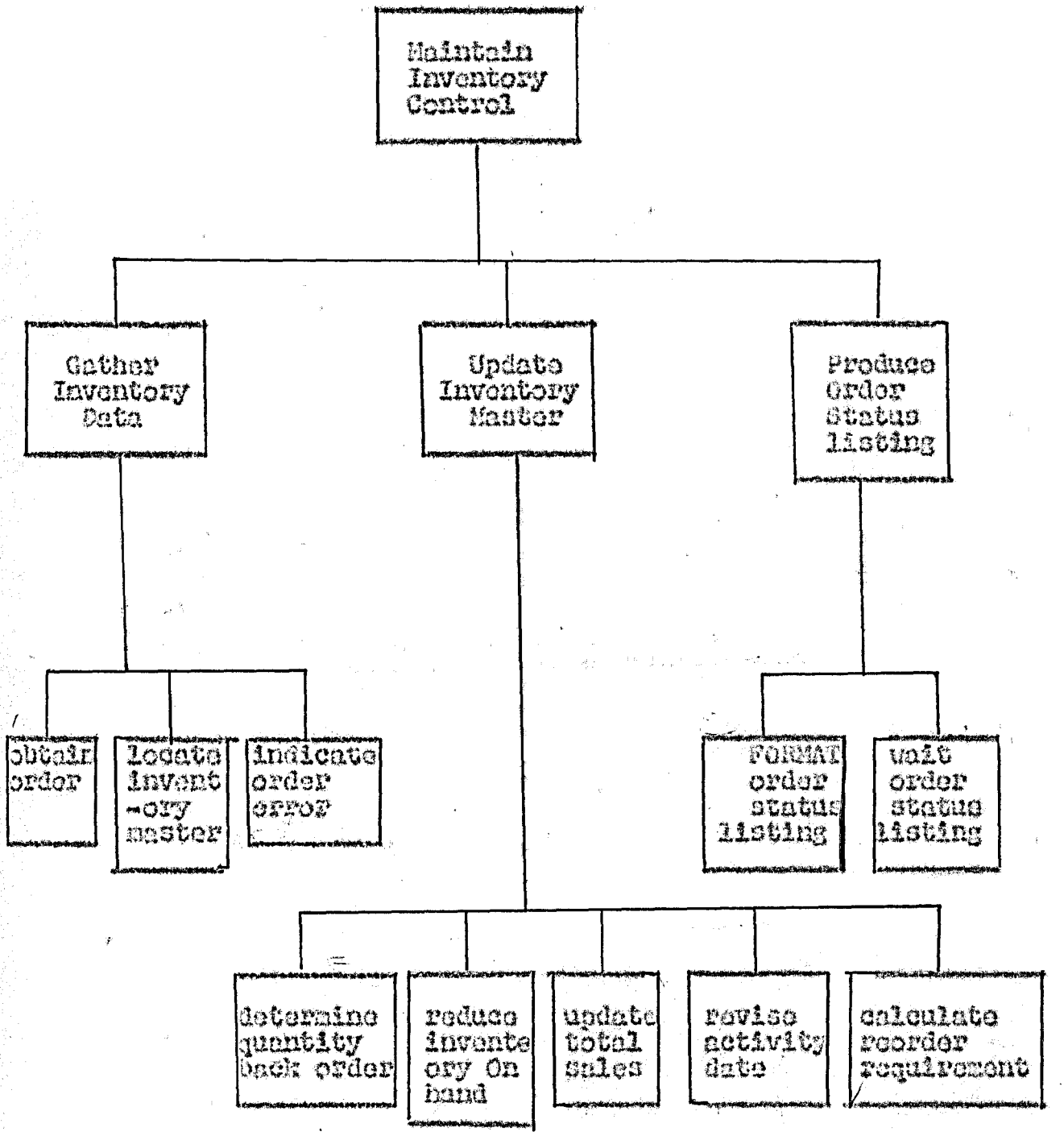
During our training, we were also taught by the Senior Sysytem Analyst i.e our supervisor, a new form of data processing system, i.e HIPO. After understanding the concept of HIPO we then use this system to document our student accounting system.

### WHAT'S A HIPO?

HIPO is an acronym for hierarchy plus Input, Process, and Output. It is a method of graphically describing a software entity such as a system or program as an arrangement of functions to be performed. Primarily developed for design and documentation purposes, HIPO has evolved as part of the Improved Programming Technologies which include Structured Programming, Top-Down Development, Chief programmer Teams, Structured Walk-throughs, and Development Support Libraries.

The hierarchy portion of HIPO involves a tree-like structure similar to an organisation diagram (see figure 1.). It is composed of functions or actions. Each function on thehierarchy is presented as a box and can be described within that box as a verb (action) and an object (data affected). The verb-object format thus names as well as defines the function.

The top box on the hierarchy described the entire piece of software in term of a single function. Each level below is a subset of the function above it. This hierarchy of function is created by a technique known as a functional decomposition, where a function is exploded into increasingly lower levels of detail until all subfunctions have been defined. Determining the main function of software, decomposing it into a hierarchy of subfunctions, and naming the subfunctions.




Part of the process of creating requirement specification thru' Hierarchical, Input, Process, and Output, is defining the basic functions to be performed and decomposing those functions into subfunctions. In the real world, such defination often isn't done neatly from the top down. But HIPO allows thru' in the middle and working up as new functions are defined and refored.

FIGURE 1.

# C H A P T E R  S I X

CHAPTER SIX.

# DATA BASE.

## DL/I APPLICATION PROGRAMMING

Data Language/I Disk Operating System/Virtual Storage (DL/I DOS/VS) is control system developed to help the user to implement data base applications. It may be used in conjunction with the IBM Customer Information Control System/Virtual Storage (CICS/VS) to allow an online access to data bases.

## DATA BASE CONCEPTS

A data base may be linked to a conventional file in that both consist of a named organised collection of data entered and maintained in one logical sequence for processing by application programs. However, when an application program processess records in a file, it must be tailored to the physical characteristics (block size, record length, access method, etc.) of the file. The application programmer must be aware of the format of all the fields in the record.

In DL/I, fields of data are grouped together in segments, and in turn segments may be grouped into data base records. DL/I apllication programs may reference these segments by name. A data base record may be made up of many different types of segments. A particular application program need be concerned only with those segments which contained the data needed for the application .

## DATA BASE CHARACTERISTICS

Figure 1.1 shows a conventional data management physical record in a file with its data elements: NAME, ADDRESS, and PAYROLL. The segments, as viewed by DL/I, are shown in the lower portion of this figure. They form a hierarchical data structure. The physical storage of the segments may differ significantly from the way the data is viewed as a data structure.

Each segment in the record usually contains several fields of data that are related and typically are processed together.

Another example of conventional data management physical record is shown in figure 1.2. Again, the lower portion of the figure shows the hierarchical data structure that DL/I makes available to the application programmer.

In the figure, assume that ~~xxx~~ SKILL, EXPERIENCE, and EDUCATION are segments of a skills inventory data base. What Figure 1.2 does not show is that there can be multiple experience and education segments for each name, and many names for each skill. To expand upon the data structure, Figure 1.3 shows a typical data base record within the skills inventory data base. Notice that multiple name segments exist under the skill segment, multiple education segments exist under each name segment, and multiple experience segments exist under ~~xxxxx~~ two of the name segments.

This leads to the following summary of the characteristics of a DL/I data base:

* A data base may contain a maximum of 255 segment types. (only four are shown in figure 1.2: SKILL, NAME, EXPERIENCE, EDUCATION .)

* A data base may contain a maximum of 15 hierarchical levels. (Figure 1.2 shows three levels of hierarchy~~xxx~~)

*

* One root segment is allowed per data base record. (The root segment in figure 1.2 is SKILL.)

* Except for HSAM and simple HSAM, the root segment always has a key field associated with it. The key field of the root ~~xxx~~ controls the placement of the data base record in the data base.

* The lower-level segments in the hierarchy may also have fields. These key may be used to sequence multiple occurrences of the same type of segment within a data base record.

* Segments at lower levels are said to ~~x~~ be dependent on those above. There may be 0 to n dependent child segments per parent. (In Figure 1.3, EXPERIENCE and EDUCATION are dependent segments of the parent. segment NAME. NAME, EXPERIENCE, and EDUCATION segments are dependent segments of the parent segment SKILL, which is also the root segment.)

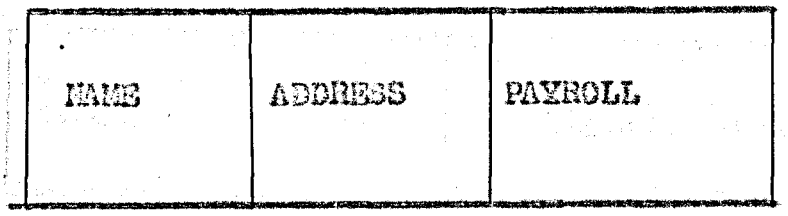
* The term parent describes the reverse relationship to that of the dependent. In Figure 1.3, SKILL is the parent of NAME, NAME is the parent of EXPERIENCE and EDUCATION.

* A data base record (such as shown in Figure 1.3) may consist of 1 to n segment occurences.

* A data base may consist of 1 to n data base records.

* Segment within a hierarchical structure are always referenced in hierarchical sequence of top-to-bottom, left-to-right, as indicated by the numbers 10 thru' 27 in Figure 1.3.

PHYSICAL RECORD




DL/I

LOGICAL SEGMENTS

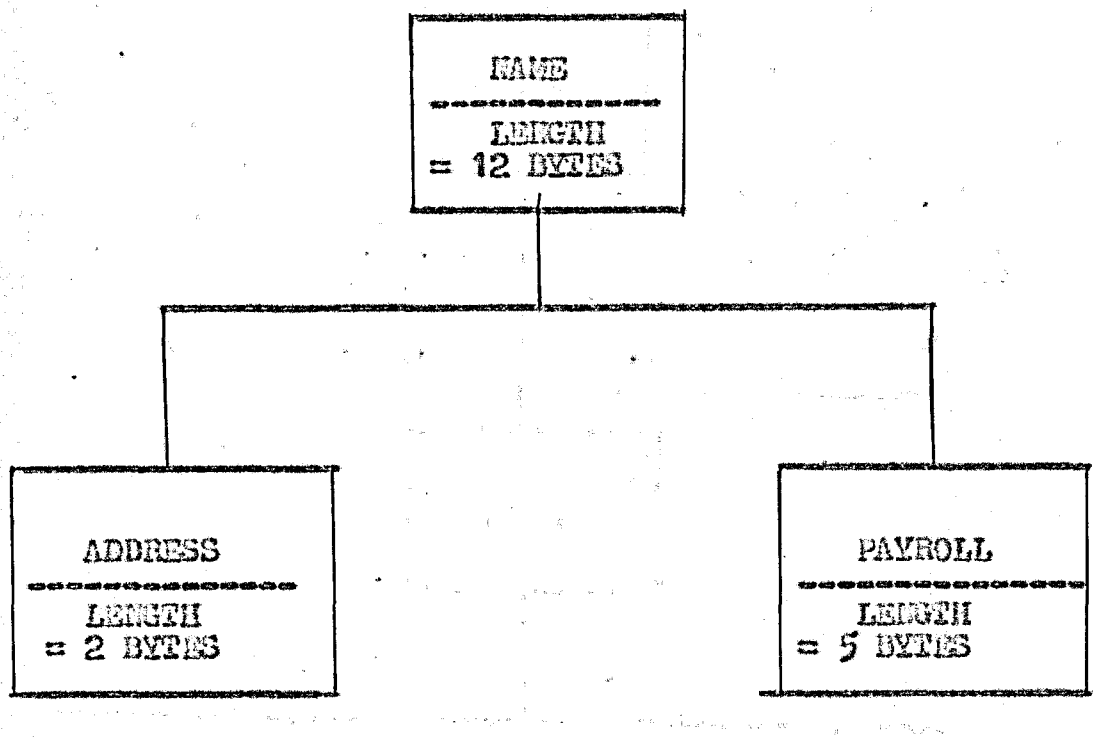
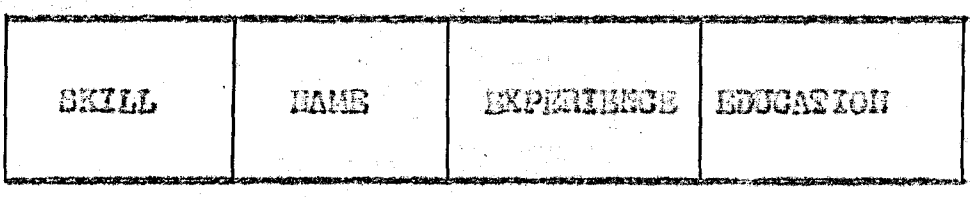



FIGURE 1.1. PHYSICAL RECORD- SEGMENT RELATIONSHIP (Example 1)

PHYSICAL RECORD




DL/I

LOGICAL SEGMENTS

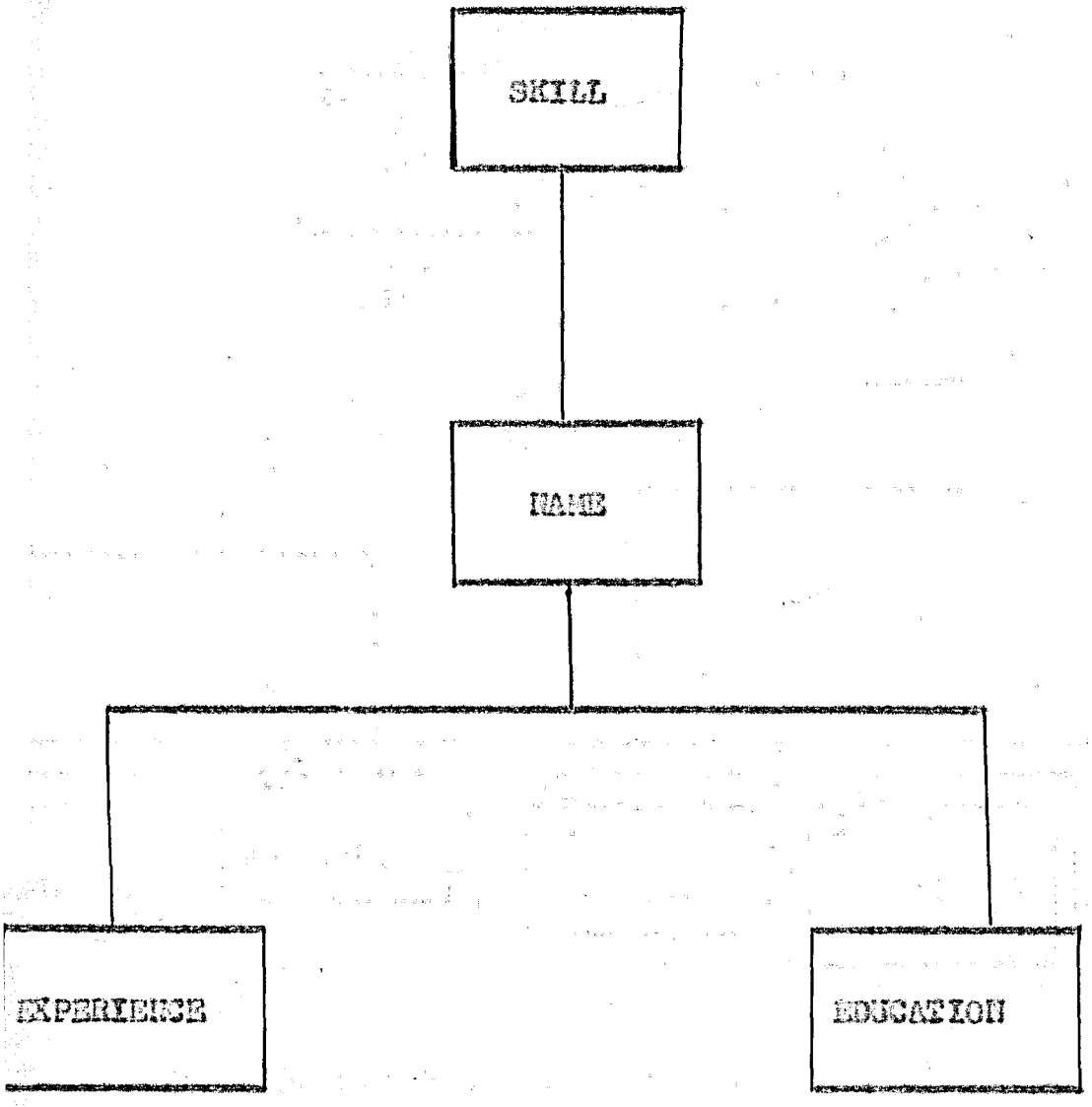



FIGURE 1.2. PHYSICAL RECORD - SEGMENT RELATIONSHIP (Example 2).

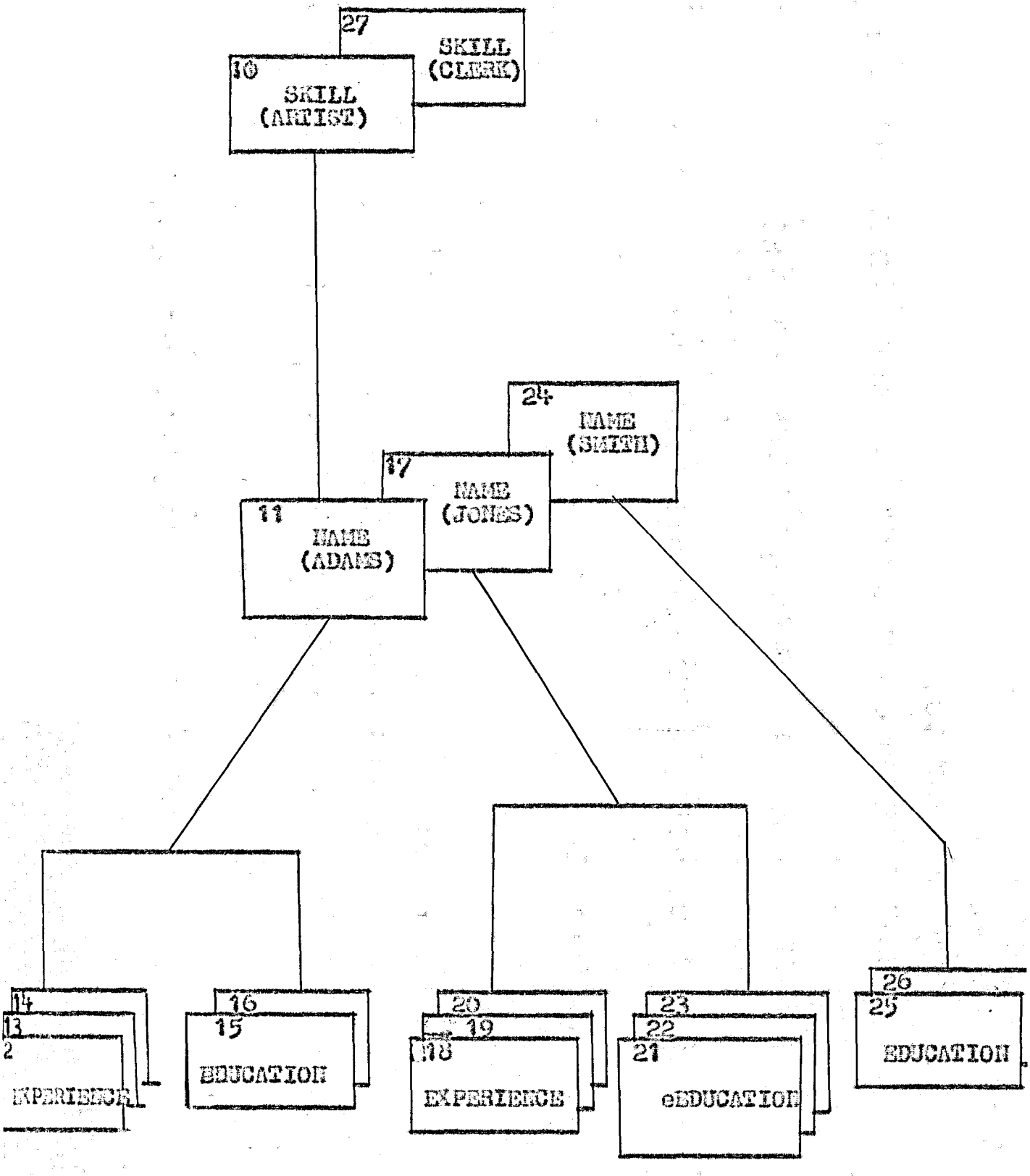


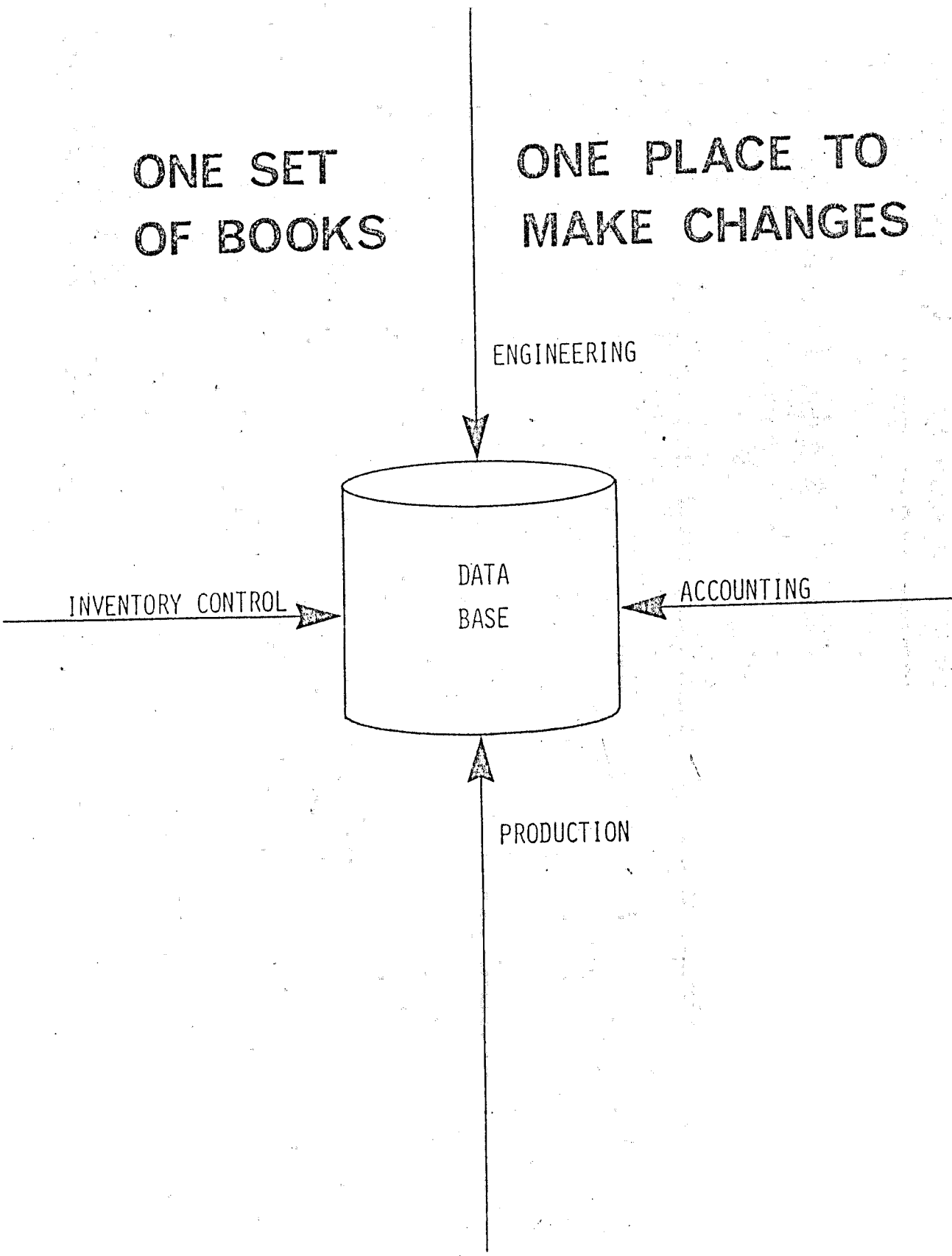

FIGURE 1.3. EXPANDED DATA BASE STRUCTURE

# WHAT IS A DATA BASE SYSTEM?

"A SYSTEM THAT ALLOWS MULTIPLE INDEPENDENT USERS TO HAVE CONCURRENT ACCESS TO A CENTRAL REPOSITORY OF INFORMATION."

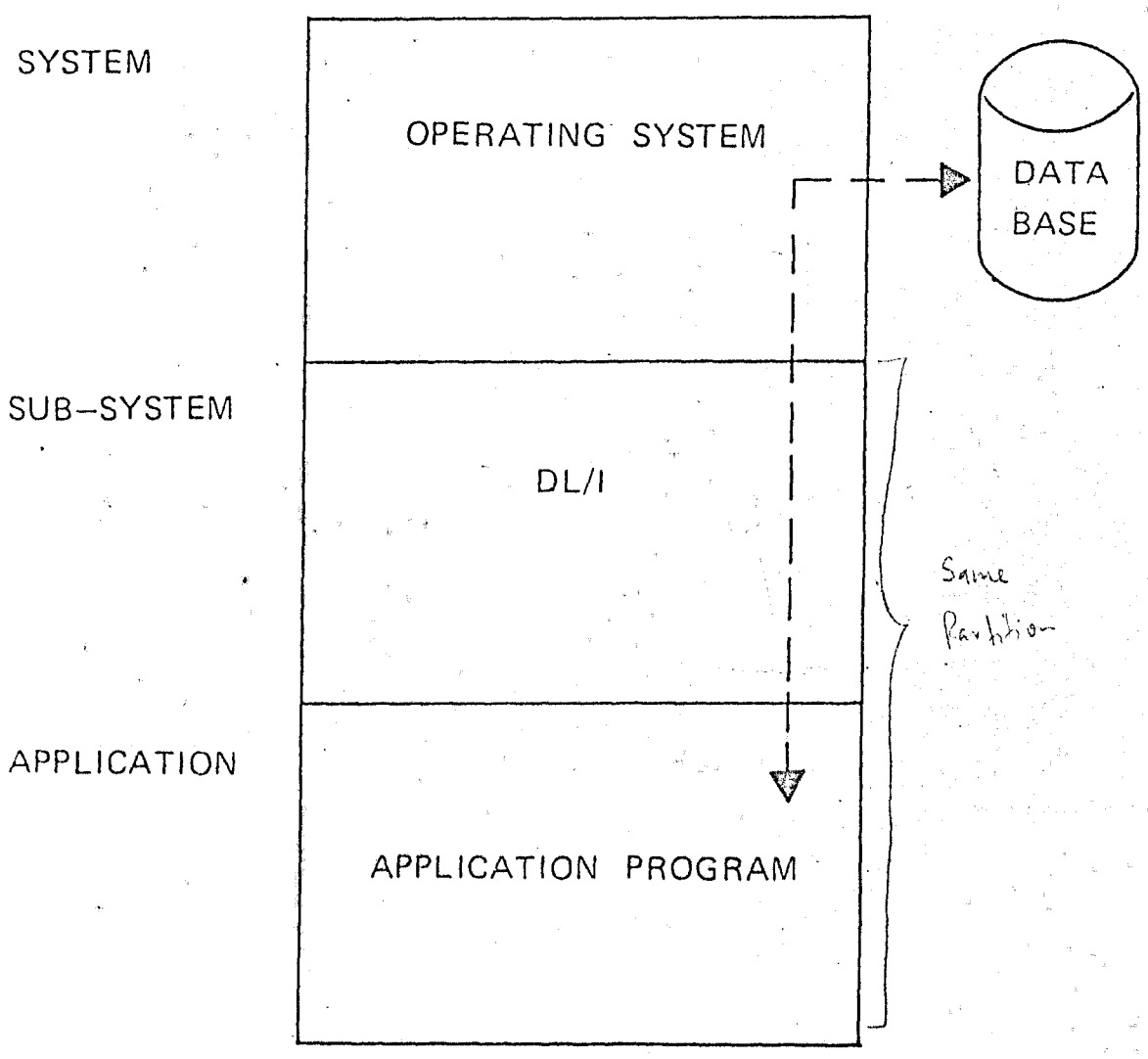
ADVANTAGES:

- CENTRALIZED FILES FOR ALL APPLICATIONS
- ELIMINATION OF DUPLICATE SPACE AND EFFORT
- SINGLE INFORMATION SOURCE PROVIDES COMPLETE, ACCURATE INFORMATION PROCESSING

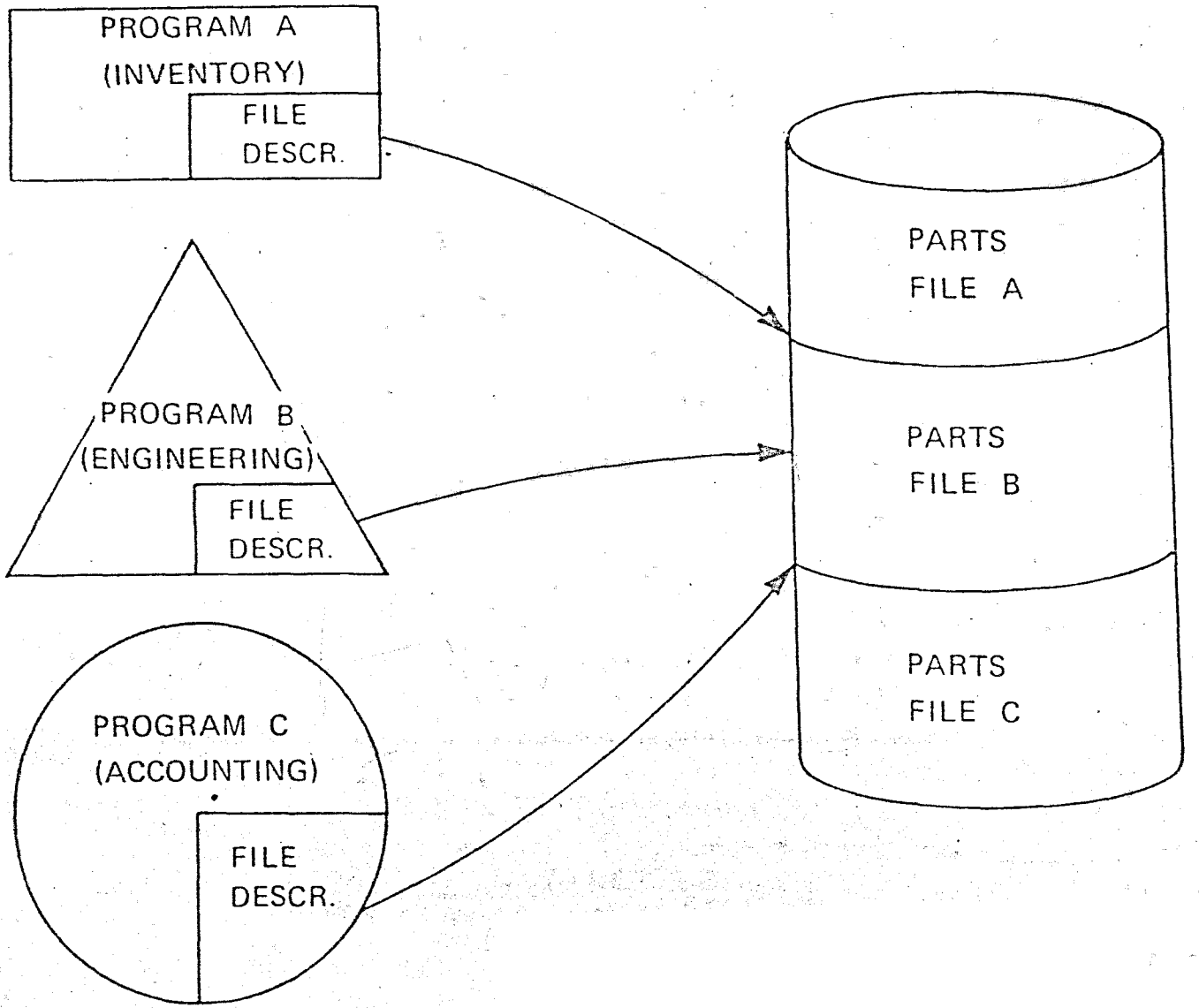

ONE SET
OF BOOKS
ONE PLACE TO
MAKE CHANGES
ENGINEERING
DATA
BASE
INVENTORY CONTROL
ACCOUNTING
PRODUCTION

# WHAT IS DL/I ?

" DATA LANGUAGE/I IS A DATA MANAGEMENT FACILITY THAT SERVES AS AN INTERFACE BETWEEN AN APPLICATION PROGRAM AND A DATA BASE "

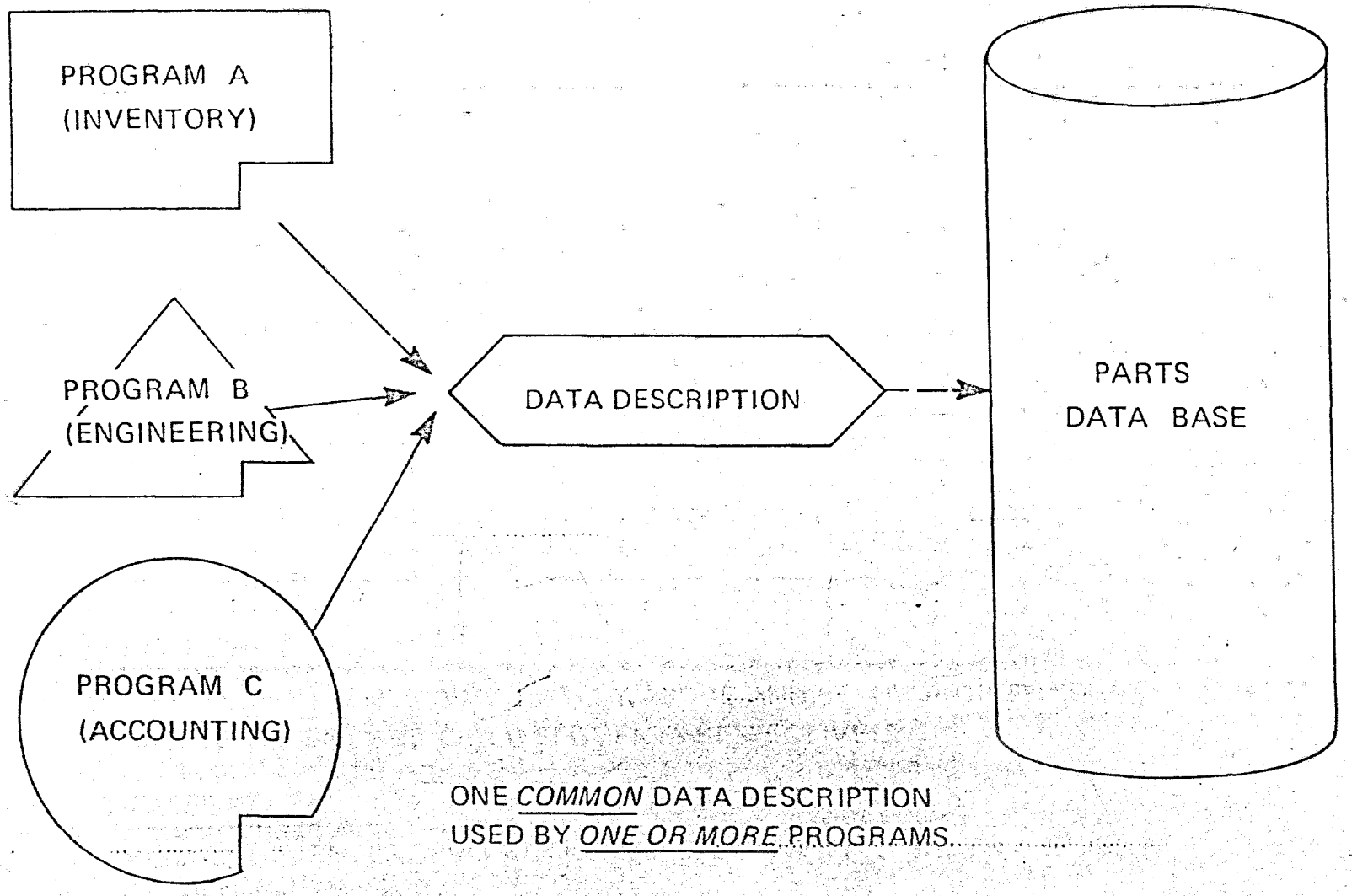


# TRADITIONAL APPROACH



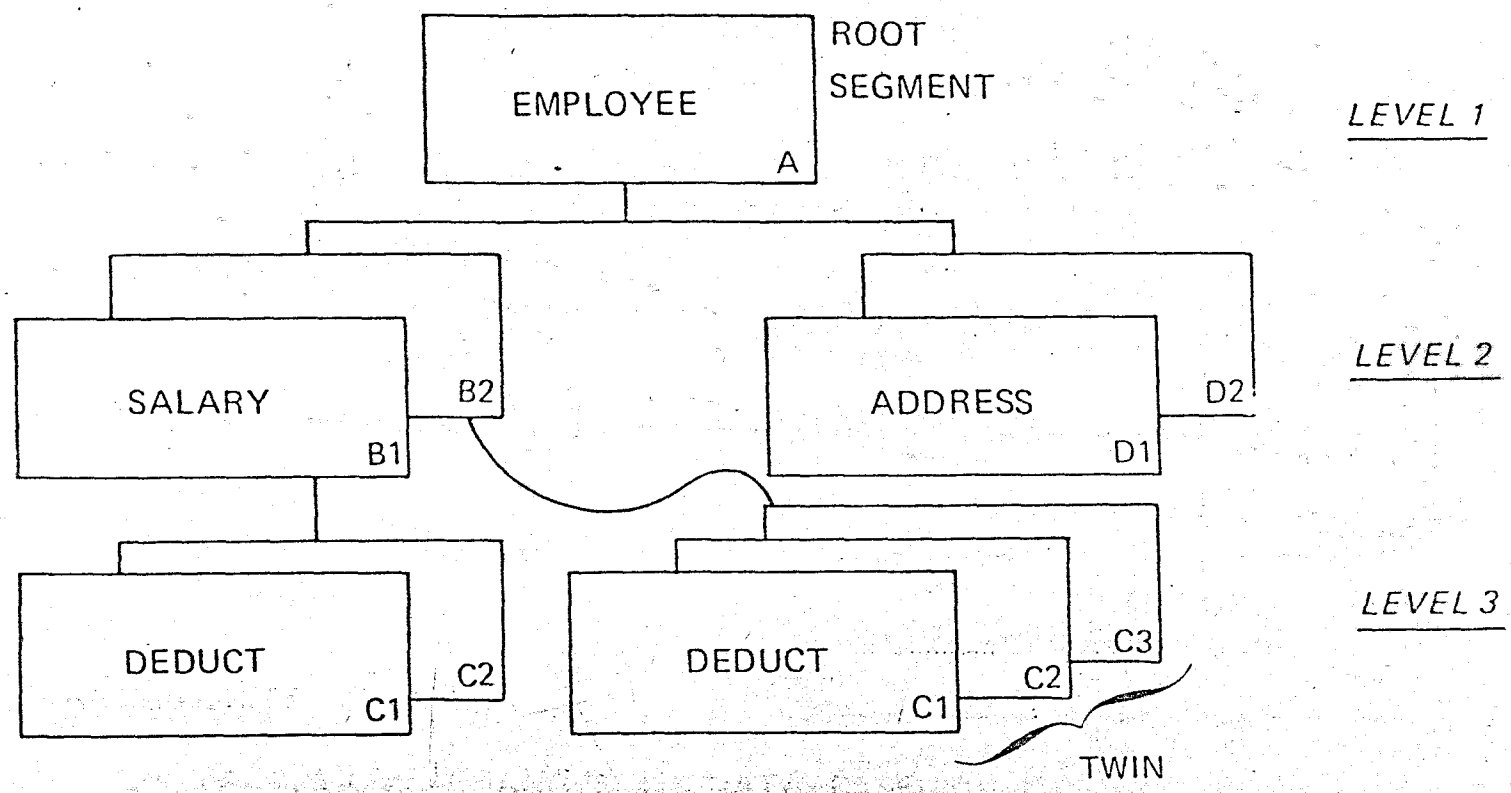

V.1.5

# DATA BASE APPROACH




ONE *COMMON* DATA DESCRIPTION
USED BY *ONE OR MORE* PROGRAMS

# DL/I TERMINOLOGY




*PARENT/CHILD*

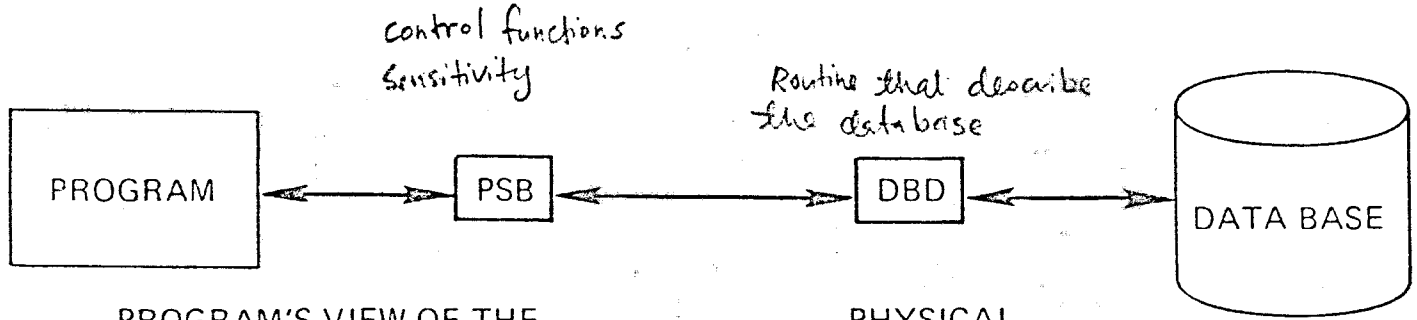
THE SEGMENT TYPES IMMEDIATELY ABOVE AND BELOW A GIVEN SEGMENT TYPE ARE CALLED PARENT AND CHILD SEGMENTS RESPECTIVELY

*TWIN SEGMENTS*

ALL OCCURRENCES OF A PARTICULAR SEGMENT TYPE UNDER A GIVEN PARENT ARE CALLED TWIN SEGMENTS.

# DATA INDEPENDENCE

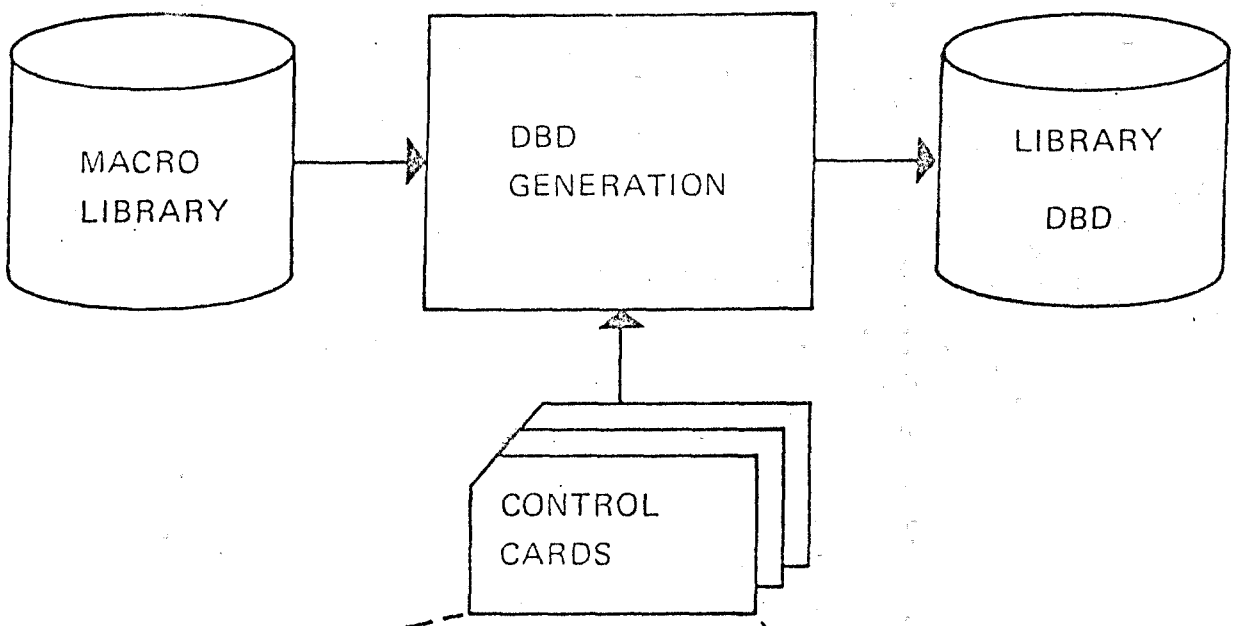
## SEPARATE THE PROGRAM FROM THE PHYSICAL CHARACTERISTICS OF THE DATA FILES




*ADVANTAGES*

- FACILITATES CHANGES TO DATA BASE
- AIDS IN DATA SHARING
- SIMPLIFIES APPLICATION PROGRAM DEVELOPMENT
- INSURES SECURITY, INTEGRITY AND CONSISTENCY OF DATA BASE

# DATA BASE DESCRIPTION (DBD)



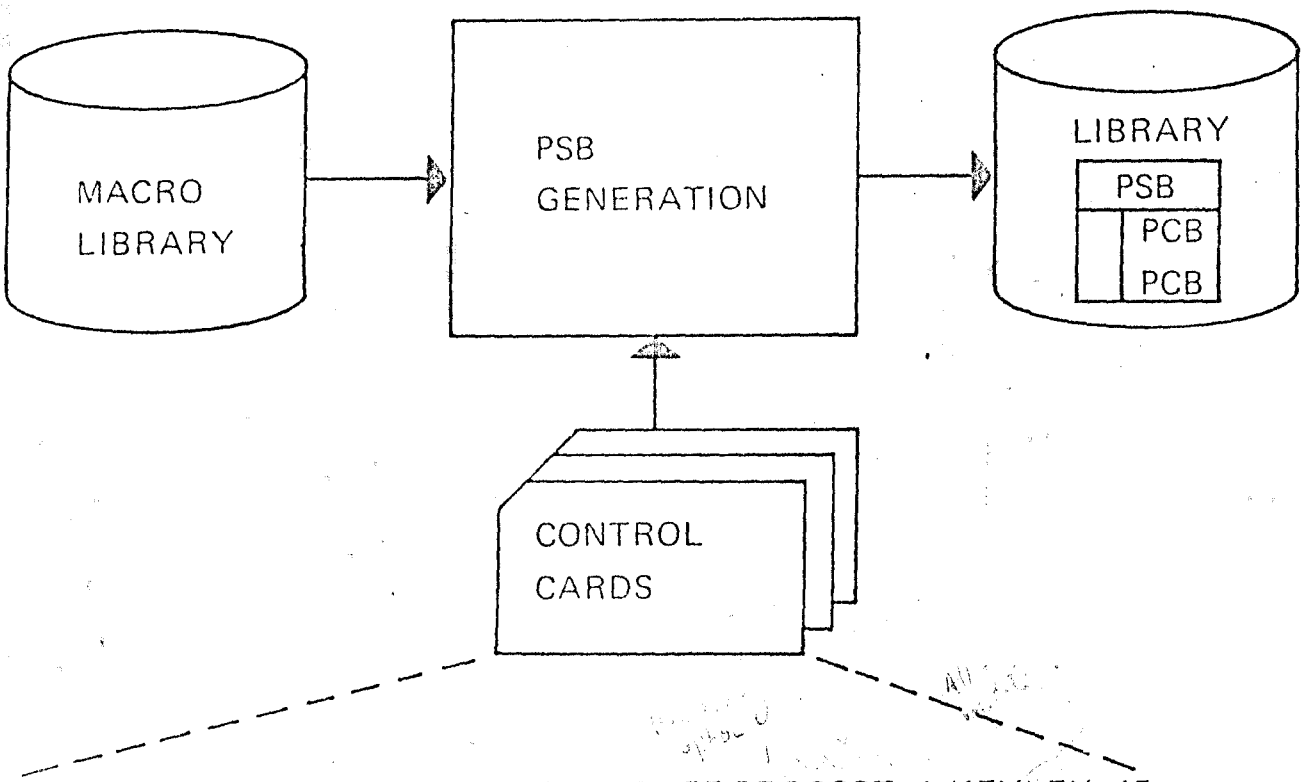

```
DBD       NAME=EMPLOYEE,ACCESS=HISAM
DATASET   DD1=EMPL,OVFLW=EMPLOVF,DEVICE=3330

SEGM      NAME=EMPLROOT,BYTES=44
FIELD     NAME=(EMPLNO,SER,U),BYTES=6,START=1
FIELD     NAME=FULNAME,BYTES=18,START=20

SEGM      NAME=SALARY,BYTES=15,PARENT=EMPLROOT
SEGM      NAME=TAXES,BYTES=21,PARENT=SALARY
SEGM      DEDUCT,BYTES=12,PARENT=SALARY
FIELD     NAME=TYPE,BYTES=4,START=1
  o
  o
  o
DBDGEN
FINISH
END
```

V.1.15

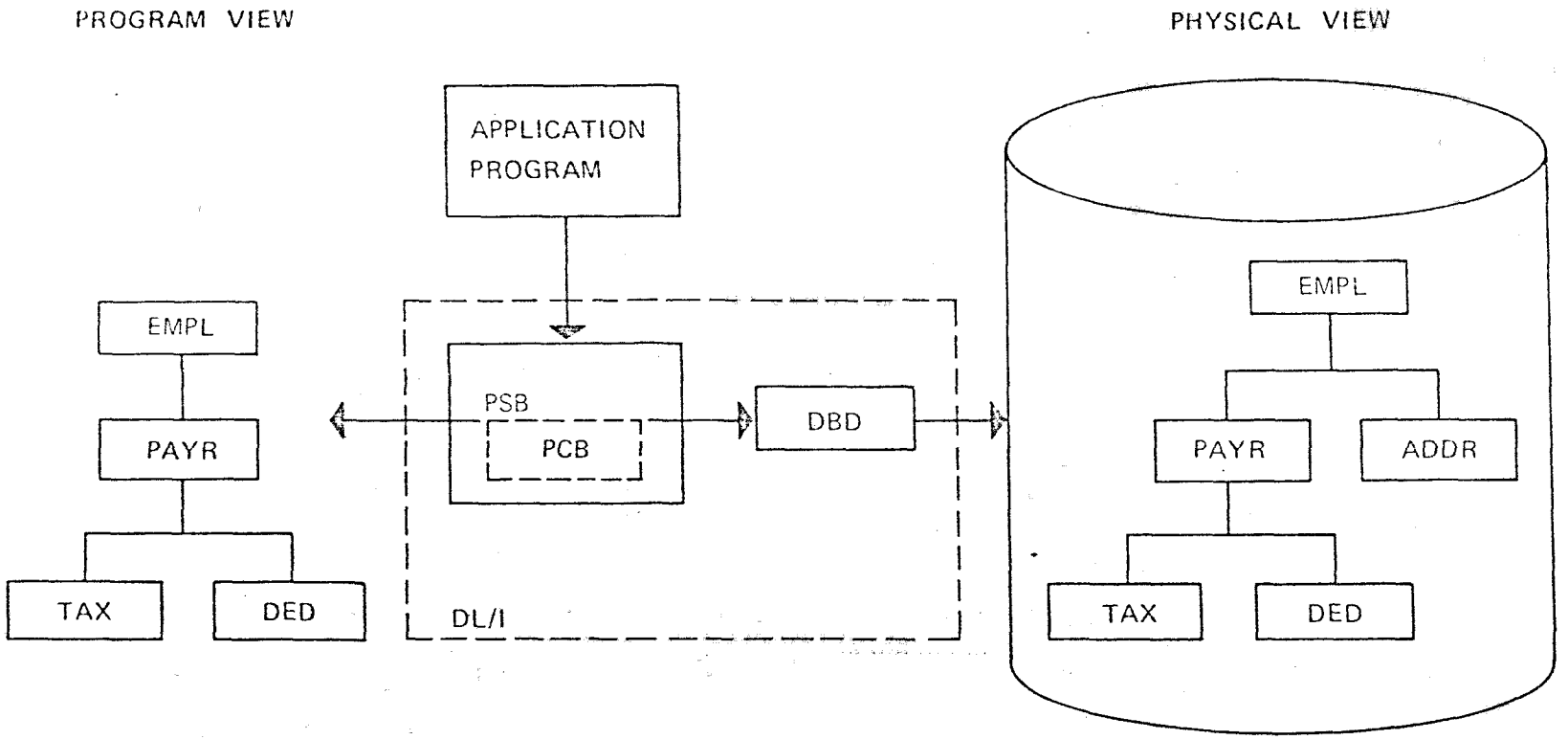
# PROGRAM DESCRIPTION
# (PSB)




```
PCB       TYPE=DB,DBDNAME=EMPLOYEE,PROCOPT=A,KEYLEN=45
SENSEG    NAME=EMPLOYEE
SENSEG    NAME=SALARY,PARENT=EMPLOYEE,PROCOPT=GR
SENSEG    NAME=TAXES,PARENT=SALARY
SENSEG    NAME=DEDUCT,PARENT=SALARY
PCB       TYPE=DB,DBDNAME=SKILLDB,PROCOPT=G,KEYLEN=22
SENSEG    NAME=SKILL
   .
   .
   .
PSBGEN    LANG=COBOL,PSBNAME=PERSONAL
END
```

V.1.

## PSB–PCB–DBD RELATIONSHIP



## DL/I ADVANTAGES TO THE PROGRAMMER

DATA INDEPENDENCE

- NO FILE DESCRIPTION CODING WITHIN PROGRAM
- NO RE-COMPILATIONS DUE TO CHANGES IN THE PHYSICAL STORAGE OR ACCESS METHOD
- SAME TYPE OF CODING REGARDLESS OF LANGUAGE OR PHYSICAL ACCESS METHOD

DATA SENSITIVITY

- LESS STORAGE TO RESERVE
- FEWER FIELDS TO DEFINE
- NO RE-COMPILATIONS DUE TO ADDITION/DELETION OF NON-SENSITIVE DATA ITEMS

DATA INTEGRATION

- LESS FILE-RELATED LOGIC TO CODE
- ONLY ONE FIELD IN ONE DATA BASE TO MAINTAIN

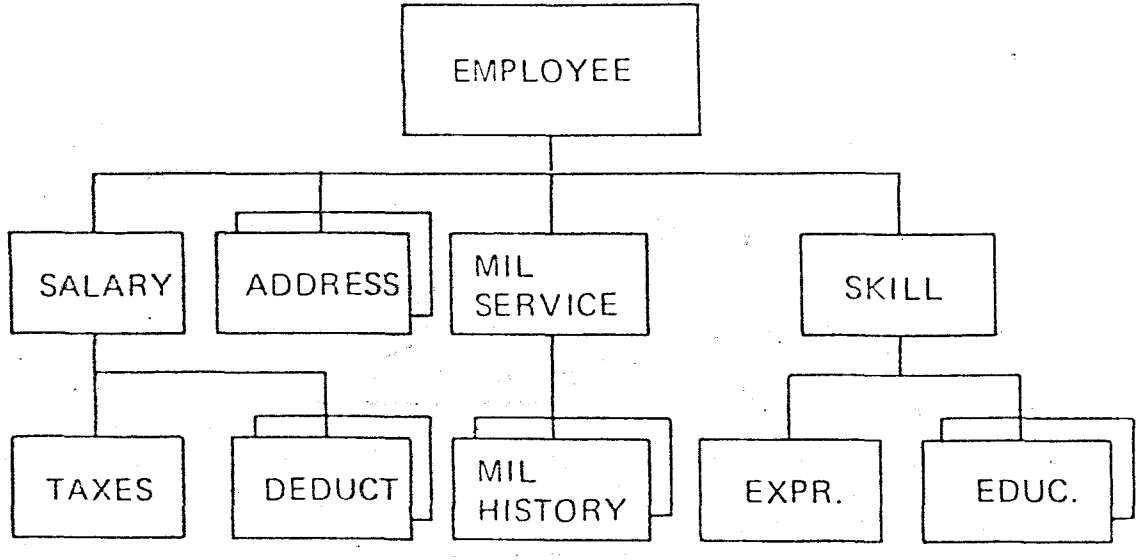
DATA BASE INTEGRITY

- NO LOGIC OR CODING FOR RECOVERY

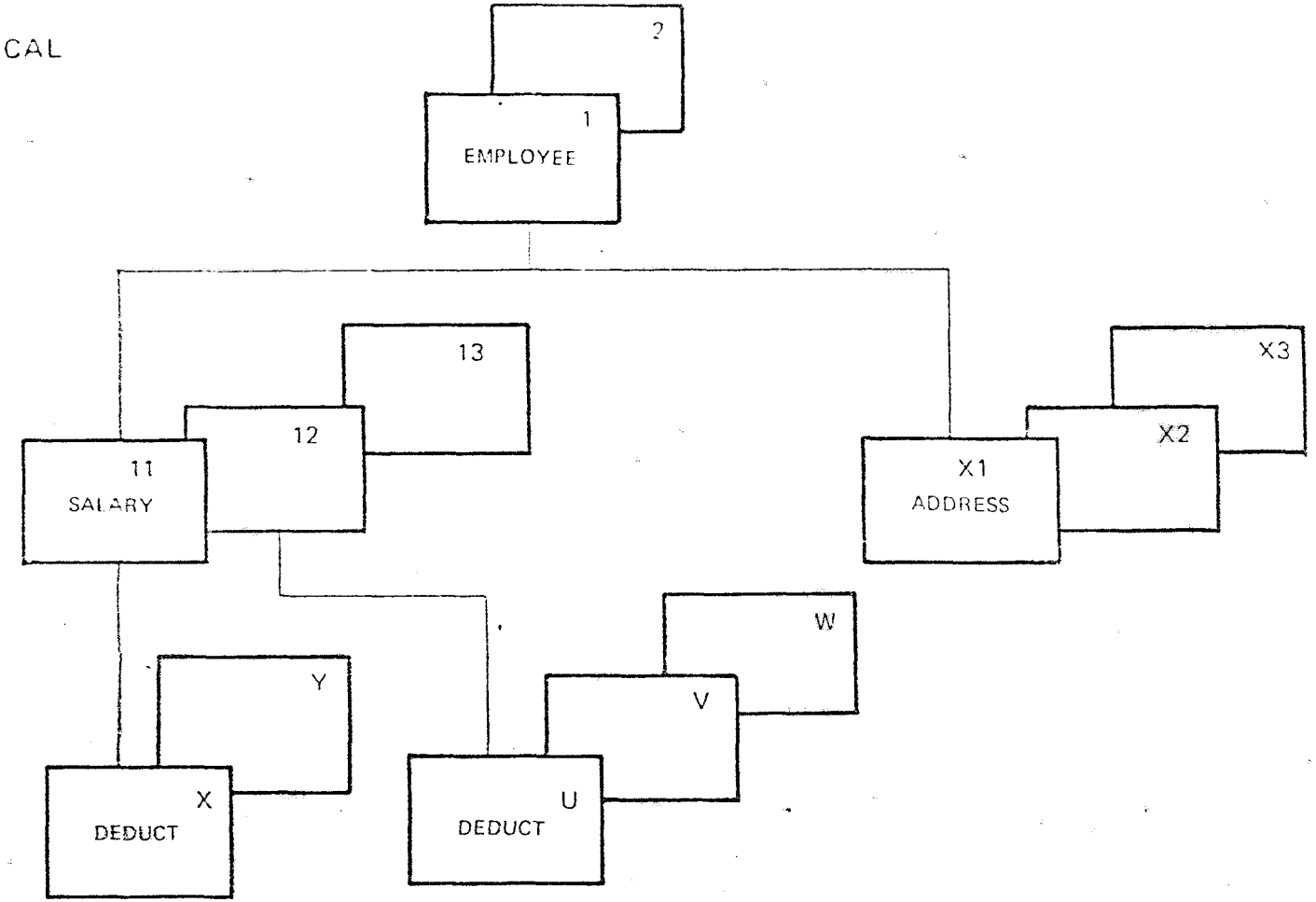
V.1.20

# DL/I DATA STRUCTURE RULES

- A DATA BASE CONSISTS OF 1 TO N DATA BASE RECORDS
- A DATA BASE RECORD CONSISTS OF 1 TO N SEGMENTS
- MAXIMUM OF 255 SEGMENT NAMES (TYPES)
- MAXIMUM OF 15 SEGMENT LEVELS
- 1 ROOT SEGMENT PER DATA BASE RECORD
- DEPENDENT SEGMENTS – 0 TO N PER PARENT
- SEQUENTIAL PROCESSING ORDER IS TOP TO BOTTOM LEFT TO RIGHT
- DATA BASE RECORD: "A ROOT AND ALL ITS DEPENDENTS"



HIERARCHICAL
SEQUENCE




| 1 | 11 | X | Y | 12 | U | V | W | 13 | X1 | X2 | X3 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

V.1.22

# C H A P T E R  S E V E N

## **INTRODUCTION *

Processing the student account was done by the Busary in UTM. Originally it was done manually and later that department decided to automate the processes. The resulting sytem could be classified under 9 processes;-

(1) Student Advance
(2) Sponsorship Transaction
(3) Individual Payment
(4) Miscellaneous Receipts Transaction
(5) Additional student Allowance
(6) Student Rebates
(7) Cheque Cancellation
(8) Trial Balance

For each processing the necessary data are collected from the related documents (e.g vouchers) these are then punched on to cards that acts as the inputs. From the inputs the related processes are carried out, the necessary output extracted.

Several check points has been established with in each process. These checks points serve to limit the error from migrating to subsequent job step, thus localising the errors. The output listing at each check point would be checked by offices of Busary before subsequent job step could be carried out

We took more than One month to understand these exixting system. From where we detect the weakness of the system like:-

(1) Duplication of work
(2) Unnecessary output listing, file used
(3) Existence of unimportant process
(4) Unable to detect the amount owe by students.

We tried to modify the system and the result we come upon is as in fig A. and further explanation of each process will then be explained in the assignment proper section.

## **OBJECTIVES OF ACCOUNTING SYSTEM**

Reasons to why student accounting is process by computer:-

(a) Produce a complete report on the ledger transactions needed by the ~~treasury~~ Busary (Student Account Section).
This ledger transaction show the students accounting for the use of universities and audithors.

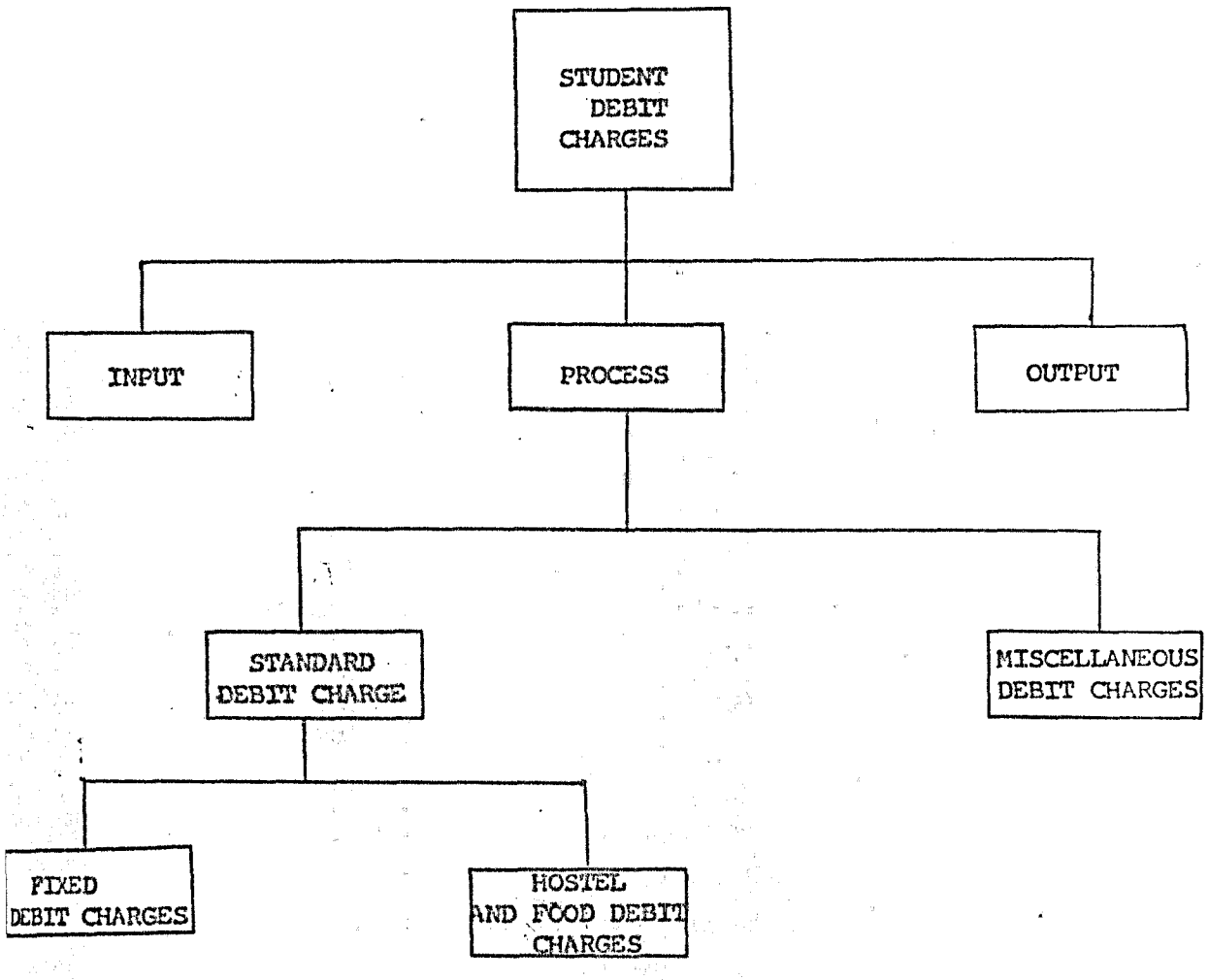
(b) Simplified the manual work of the student account.

(c) Produce cheque and pay-slips to student.

**zzz**

assignment proper

## STUDENT DEBIT CHARGES




### FIXED DEBIT CHARGES:-

| | ITEMS | AMOUNT | | |
|---|---|---|---|---|
| 1. | TUITION FEES:- | | | |
| | (A) DEGREE | $270/= | DEBIT CHARGE FOR THE FIRST AND SECOND SEMESTER | |
| | (B) DIPLOMA | $225/= | | |
| 2. | CLINIC FEES | $4.50 | | |
| 3. | LECTURE NOTES | $9.00 | | |
| 4. | MATRIC CARD | $2.00 | ONCE A YEAR | DEBIT CHARGE FOR THE FIRST SEMESTER ONLY. |
| 5. | INSURANCE (KHAIRAT KEMATIAN) | $1.00 | | |

### HOSTEL AND FOOD DEBIT CHARGES

| ITEMS | AMOUNT | | CODE | |
|---|---|---|---|---|
| HOSTEL | $1.50 | PER DAY | 1 | 2 |
| FOOD | $2.40 | | | |

STUDENT DEBIT CHARGES

1. Consist of 2 processes.
   (a) Standard debit charges.
   (b) Miscellaneous debit charges.

2. Standard debit charges are devided into
   (a) Fixed debit charge.
   (b) Food and Hostel debit charges.

3. RUNFDC updates the student data base, main and subledger.
   Every student will be charge for the item below.

| | | | |
|---|---|---|---|
| (a) Tuition Fees - Degree = | $270 | Charge twice a year |
| Diploma = | $225 | |
| (b) Clinic Fees | $4.50 | |
| (c) Lecture Notes | $9.00 | |
| (d) Matric Card | $2.00 | Charge only once a year |
| (e) Life insurance (Khairat Kematian) | $1.00 | |

4. (i) RUNFHC1 validate data of food and hostel debit charge. Name and Sponsor code were extract from student data base and move to temporary disc. Corrected data will be stored in temporary disc. Error will be printed on error listing.

   (ii) RUNFHC2 update the student data base, main and subledger file. Ledger listing shows the transaction in Main and Subledger.

5. (i) RUNMDC1 validate the data in the miscellaneous debit charge. Correct data were move to temporary disc. Error will be indicate with '**' sign in Edit Listing.

   (ii) RUNMDC2 updates the student data base main and subledger file using correct data in 5(i).

6. In all the debit charges process insert the code for various item AC-CODE and insert amount into the AC-DB-AMT.

   Code for various item is

   01 for Tuition Fees.
   02 for Clinic Fees.
   03 for Lecture Note.
   04 for Matric Card.
   05 for Life insurance (Khairat Kematian)
   06 for Fines.
   07 for Food.
   08 for Lodging.

7. All the debited amount should also be inserted in the IN-STU-OWE in the STU-INFOS segment.

Note:

1) All listing will be produce in 2 copies. One for student debit charge file and another for student file.

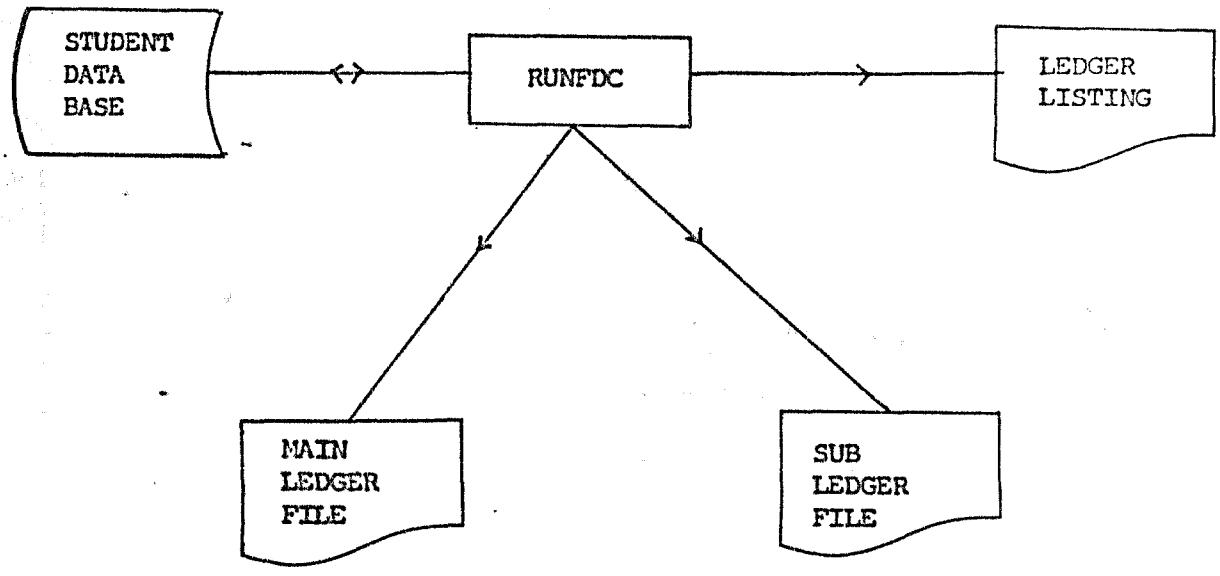
2) If error occur in RUNFDC, RUNFHC2 and RUNMDC2, the processes should be repeated where backup of data base will have to be reloaded.

3) Main and subledger listing can be produce by running the PRINTML and PRINTSL respectively.

## STUDENT DEBIT CHARGES

### (A) STANDARD DEBIT CHARGES

#### (i) FIXED DEBIT CHARGES



FIXED DEBIT CHARGES

UPDATING PROCESS

RUNFDC

This program update the student data base, main and sub ledger file. Ledger listing will be produce to show the transaction in Main and Subledger.

INPUT:-

(1) Student Data Base.
(2) Main and Subledger File.

PROCESS:

(1) Read student record using (GU) function at end go to 8.
(2) Insert the code to AC-CODE and Amount to AC-DB-AMT.
(3) Accumulate the amount charge to IN-STU-OWE in the STU-INFO segment.
(4) Classify student into different categories using sponsore code in student data base.
(5) Accumulate the amount of the various item.
(6) Update main and sub ledger disc file.
(7) Go to 1.
(8) Produce ledger listing to show the transaction of the account.
(9) Stop.

OUTPUT:

(1) Updated Student Data Base.
(2) Updated Main and Subledger.
(3) Ledger Listing.

TRANSACTION SHOWN IN LEDGER LISTING

MAIN LEDGER

Dr. Student (3 categories)

Cr. Various item.

Various item refer to

(a) Yuran Pelajaran
(b) Nota Syarahan
(c) Yuran Kelinik
(d) Kod Matrik
(e) Khairat Kematian

3 Categories refer to

(a) Pelajar berpenganjur
(b) Pelajar swasta
(c) Pelajar belum tahu penganjur

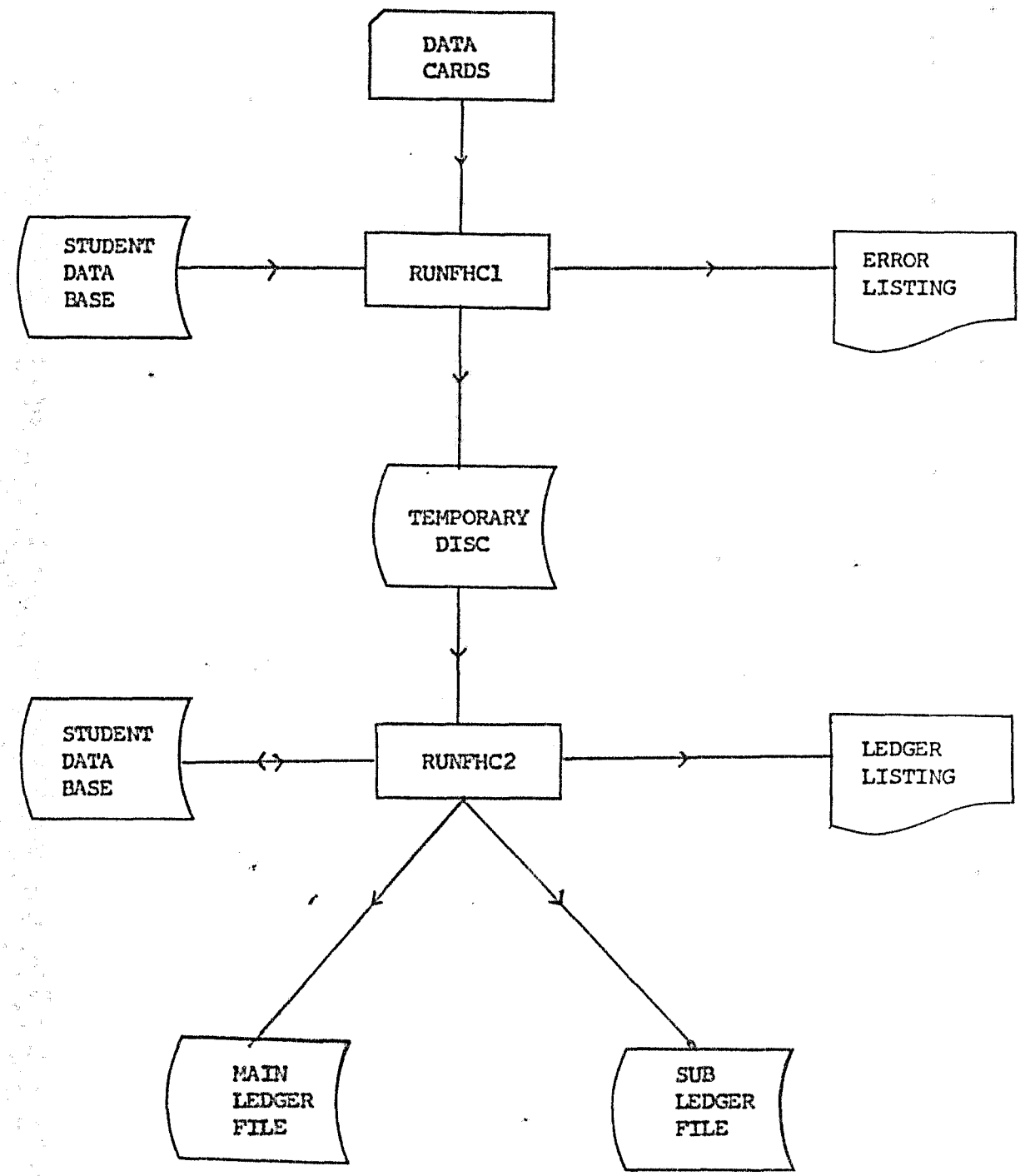
SUB LEDGER

Dr. Student (pelajar berpenganjur)

STUDENT DEBIT CHARGES

(A) STANDARD DEBIT CHARGES

(11) FOOD AND HOSTEL CHARGES.



FOOD AND HOSTEL CHARGES

VALIDATION PROGRAM

RUNFHC1

This program validate the data. Indicate errors on error listing. Transfer corrected data, name and sponsor code to temporary disc.

INPUT: 1) Data cards.
2) Student Data Base.

Data card format:-

| Column | Description |
|---|---|
| 1 - 8 | Identity card no. |
| 9 - 9 | Hostel code. (1 or 2) |

PROCESS:
1. Read data at end go to 10.
2. Compare indentity card no. with data base.
3. If error print data and '*' sign on the error listing go to 1 else.
4. Check Hostel is '1' or '2'.
5. If error print data and '*' sign on error listing go to 1 else.
6. Transfer data to temporary disc.
7. Extract name and sponsore code to temporary disc.
8. Insert amount charge to temporary disc.
9. Go to 1.
10. Stop.

OUTPUT:
1. Error listing (if any)
2. Clean data on temporary disc.

FOOD AND HOSTEL CHARGES

UPDATING PROCESS

RUNFHC2

This program update the hostel and food charges in the student data base, main and sub ledger. Hostel code '1' indicate amount charge for Hostel and '2' amount charge for food and hostel.

INPUT: 1) Temporary disc file.
2) Student data base.
3) Main and sub ledger file.

PROCESS:1) Read data from disc at end go to 7.
2) Compare I/C no. with data base.
3) If valid update data base.
4) Else display error message on console.

Update Data Base

(i) Locate STU-INFO, STU-YEARS and STU-ACC.
(ii) Accumulate amount charge to IN-STU-OWE.
(iii) Insert code to AC-CODE and amount charge to AC-DB-AMT in STU-ACC.
(iv) Accumulate all the amount charge.

5) Update main and sub ledger.

(a) Main ledger

| Ledger Code | Butir-Butir | Dr. | Cr. |
|---|---|---|---|
| 9303000 | Kawalan Pelajar berpenganjur | xx | |
| 9304000 | Kawalan Pelajar Belum tahu Penganjur | xx | |
| 7201000 | Sewa Asrama | | xx |
| 8103000 | Makan | | xx |
| | Jumlah | xx | xx |

(b) Sub ledger

| Ledger Code | Butir-Butir | Dr. | Cr. |
|---|---|---|---|
| 9303xxx | Kawalan Pelajar Berpenganjur | xx | |
| 9304xxx | Kawalan Pelajar Swasta | xx | |
| 9305xxx | Kawalan Pelajar tak tahu Penganjur | xx | |
| | Jumlah | xxx | |

6) Go to 1.

7) Print ledger listing to show the transactions.

8) Stop.

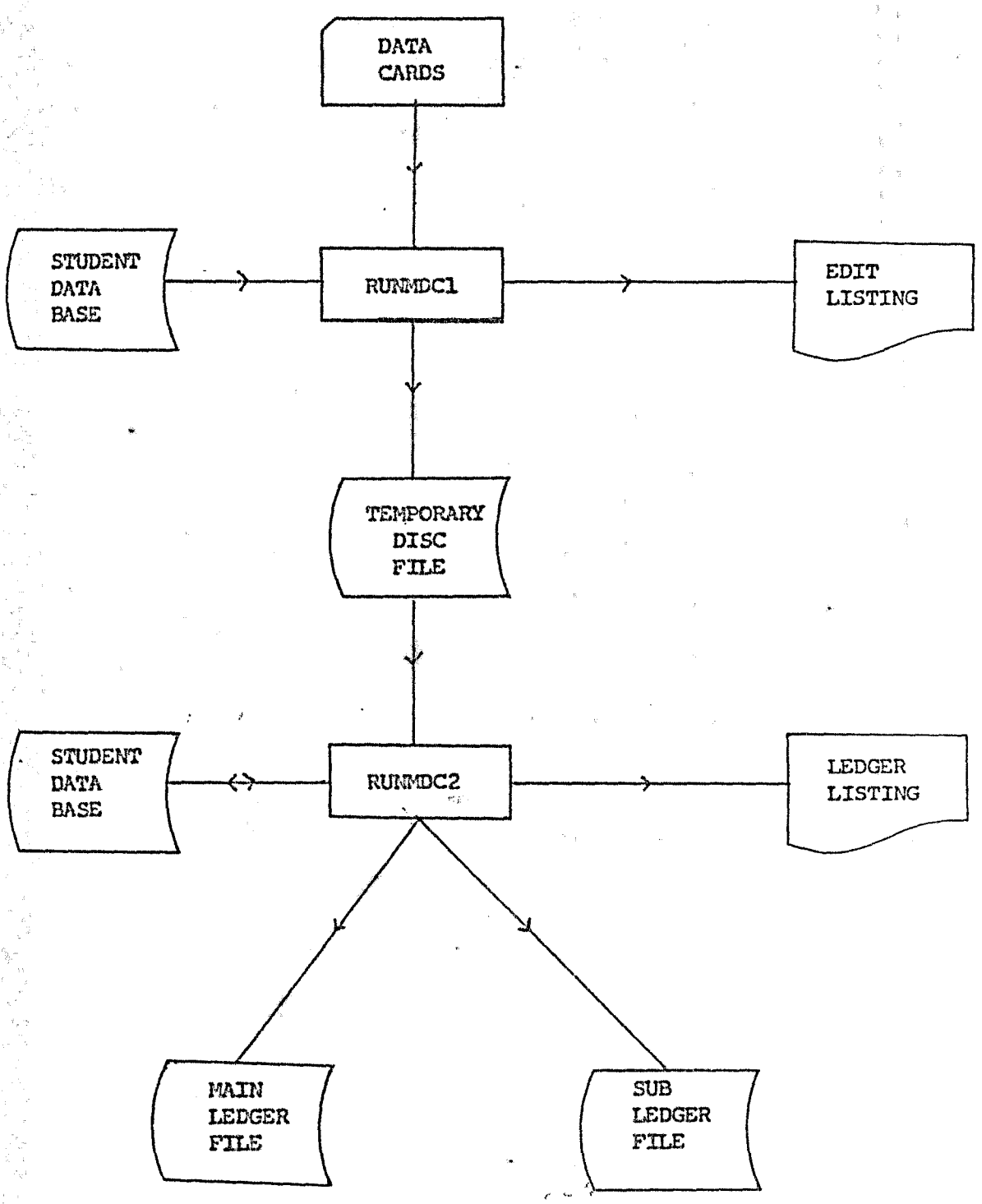
OUTPUT: 1) Ledger listing.

2) Updated student data base.

3) Updated main and sub ledger file.

## STUDENT DEBIT CHARGES

## (B) MISCELLANEOUS DEBIT CHARGES



MISCELLANEOUS DEBIT CHARGES

VALIDATION PROGRAM

RUNMDC1

This program checks that data are correct, error indicate by the sign '*' on edit listing. Extract name from data base to edit listing. Transfer clean data to temporary disc.

INPUT : 1) Data cards.
2) Student data cards.

Data cards format:-

| Column | Description |
|---|---|
| 1 - 8 | I/C no. |
| 9 - 11 | Sponsore code |
| 12 - 13 | Account code (06) |
| 14 - 19 | Amount ($) |
| 20 - 29 | Rujukan |

PROCESS:
1. Read data at end go to 11.
2. Compare I/C no. with data base.
3. If valid extract name.
4. Check valid sponsore code.
5. Check account code equal '06'.
6. Check amount numeric.
7. Any data with error print on edit listing with '*' sign.
8. Correct data print on edit listing and transfer to temporary disc.
9. Go to 1.
11. Stop.

OUTPUT:
1. Temporary disc.
2. Edit listing.

UPDATING PROCESS

RUNMDC2

This program will update the Student Data Base Main and Sub ledger file. Ledger listing will be produce to show the transaction in Main and Subledger.

INPUT :-

1. Student Data Base.
2. Main and Subledger File.

PROCESS:

1. Read Student Record using (GU) function at end go to 7.
2. Insert the code to AC-CODE and Amount to AC-DB-AMT.
3. Accumulate the amount charge to IN-STU-OWE in the STU-INFO segment.
4. Accumulate the amount of the various item (fines).
5. Update main and subledger disc file.

MAIN LEDGER

Dr. Student (3 categories).
Cr. Various item (fines).

SUB LEDGER

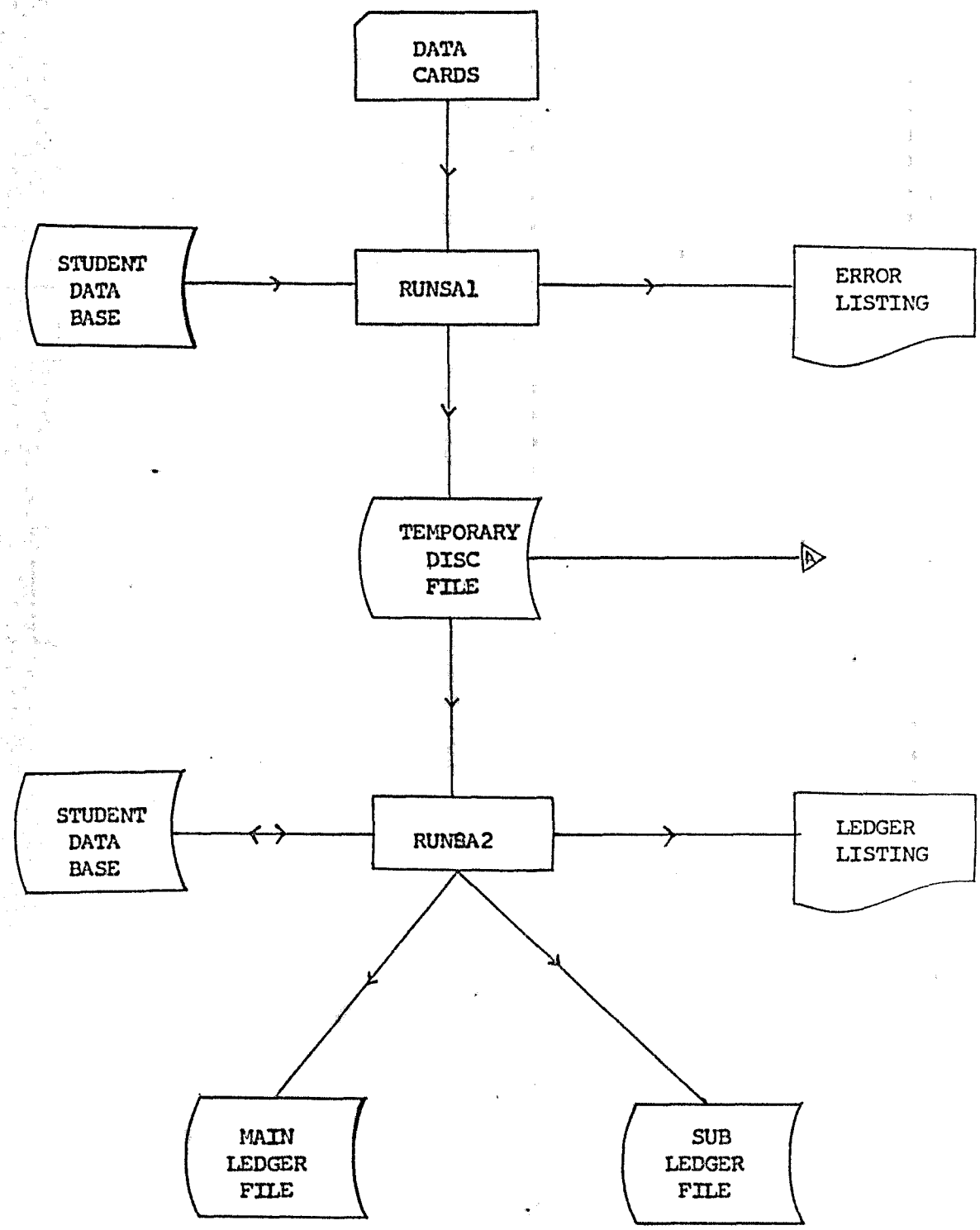
Dr. Student (3 categories)

6. Go to 1.
7. Produce ledger listing to show the transaction of the account.
8. Stop.

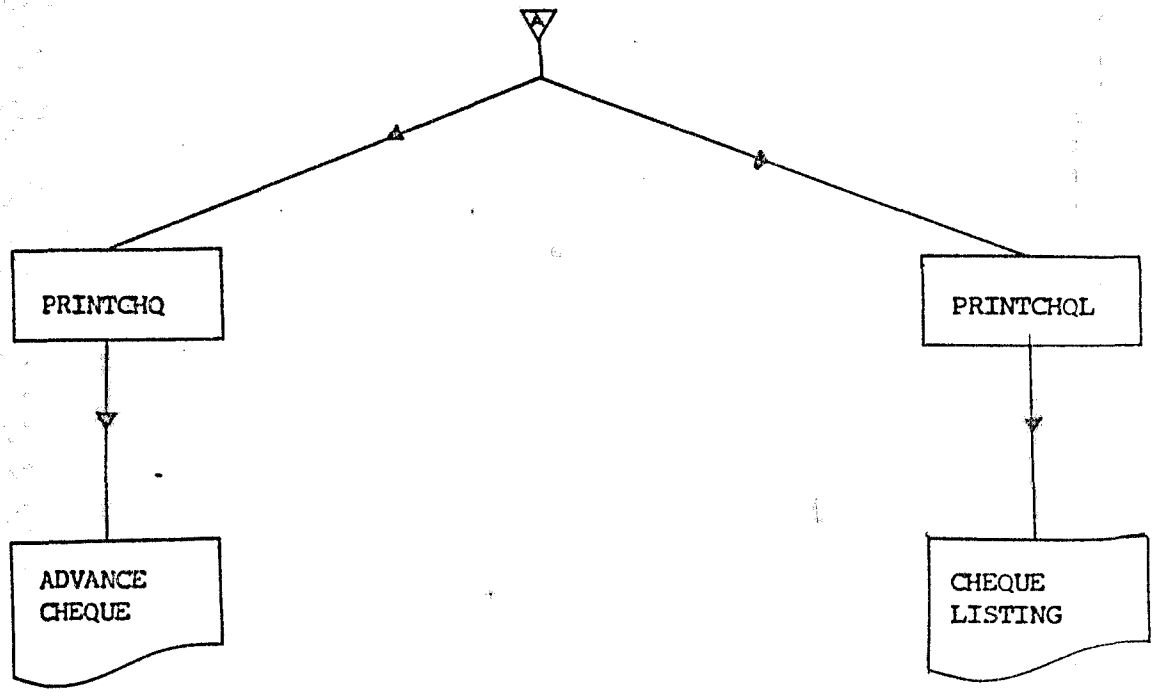
OUTPUT:-

1. Updated Student data base.
2. Updated Main and Subledger.
3. Ledger Listing.

STUDENT ADVANCE PROCESS



STUDENT ADVANCE PROCESS



STUDENT ADVANCE

1. Student advance is teh money given to sponsored student who apply for it.

2. Student have to fill in the form when apply for the advance.

3. Amount given is not fixed.

4. Process when data available.

5. Validation run will check that all are correct.

6. Incorrect data will be recheck and send for validation run once again.

7. Correct data will be stored in temporary disc.

8. Updating run will update student data base, main and subledger.

9. The amount updated in student data base will be accumulated in IN-STU-OWE.

10. Ledger listing will be produce to show the transaction.

11. RUN PRINTCHQ will produce the cheque.
RUN PRINTCHQL will produce cheque listing.

Note:

1) 2 ledger listing will be produce.
One for sponsor file and another for student advance file.

VALIDATION PROGRAM

RUNSA1

This program check that the data are correct. Using identity card number search student record is the student data base. Indicate data with error on error listing.

INPUT : 1. Data cards.
2. Student Data Base

Data card Format:-

| Column | Description |
|---|---|
| 1 - 8 | Identity card number |
| 9 - 11 | Sponsore code |
| 12 - 17 | Year/Semester |
| 18 - 24 | Amount ($) |
| 25 - 28 | Course |
| 29 - 38 | No. Rujukan |

PROCESS ; 1. Read data at end go to 8.
2. Compare identity card number with data base.
3. Checked:-
i) for valid sponsore code.
ii) for valid year/semester.
iii) amount is numeric.
iv) for valid course.
4. If error print on error listing with '*' sign.
5. Else transfer to temporary disc.
6. Accumulate the amount.
7. Go to 1.
8. Stop.

OUTPUT : 1. Error listing (if any).
2. Temporary disc file.

UPDATING PROGRAM

RUNSA2

This program update the student data base. Main and sub ledger file. For each student the amount is added to the total debit amount is the year segment and to the total debit amount in the year segment and a debit advance segment is created in the account segment. This amount is also accumulated in the IN-STU-OWE segment.

For the ledgers, the total amount is processed as:-

SIDANG AKADEMIK 1978/79 PENGGAL PERTAMA

TARIKH: xx/xx/xx

Section AA.

NAMA NO. KAD PENGENALAN KURSUS/YEAR

Section AB.

LEJER-LEJER AKAUN PELAJAR (PENDAHULUAN)

NO. JORNAL = JPxxx NO. BOUCER = BRxxx PENGANJUR = xxx

| LEJER | NAMA PENGANJUR | DEBIT | KREDIT | BERSIH |
|---|---|---|---|---|
| 9303000 | KAWALAN PELAJAR BER-PENGANJUR | 9(2) | | 9+ |
| 9902000 | KUMPULAN WANG PEN-DAHULUAN PELAJAR | 9(1) | | 9+ |
| 9903 | PENDAHULUAN YANG DIBERI | 9(2) | | 9- |
| 9605000 | BANK (PERWIRA HABIB BANK-002) | | 9(1) | 9- |
| | JUMLAH | 9+9 | 9+9 | 9+ |
| 9303xxx | KAWALAN PELAJAR BER-PENGANJUR BERKENAAN | 9 | | 9+ |
| | JUMLAH | 9 | | 9+ |

INPUT : 1) Validated data on disc.

2) Student data base.

3) Main and sub ledger file.

PROCESS: 1) Read data from temporary disc at end go to 13.

2) Extract and print I/C, name, year/kursus to output section (AA).

3) Accumulate number of record read.

4) Accumulate the total amount for various ledgers.

5) Locate STU-INFOS, STU-YEARS, STU-ACC.

6) Test if AC-CODE in STU-ACC = 99.

7) If yes go to the next STU-YEAR segment.

8) Update amount in the IN-STU-OWE segment.

9) Move (11) to AC-CODE, the amount requested to AC-DB-AMT, insert into STU-ACCs.

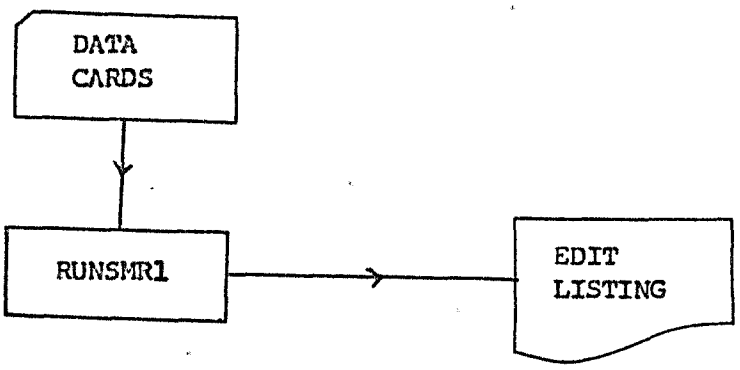
10) Update ledger file.

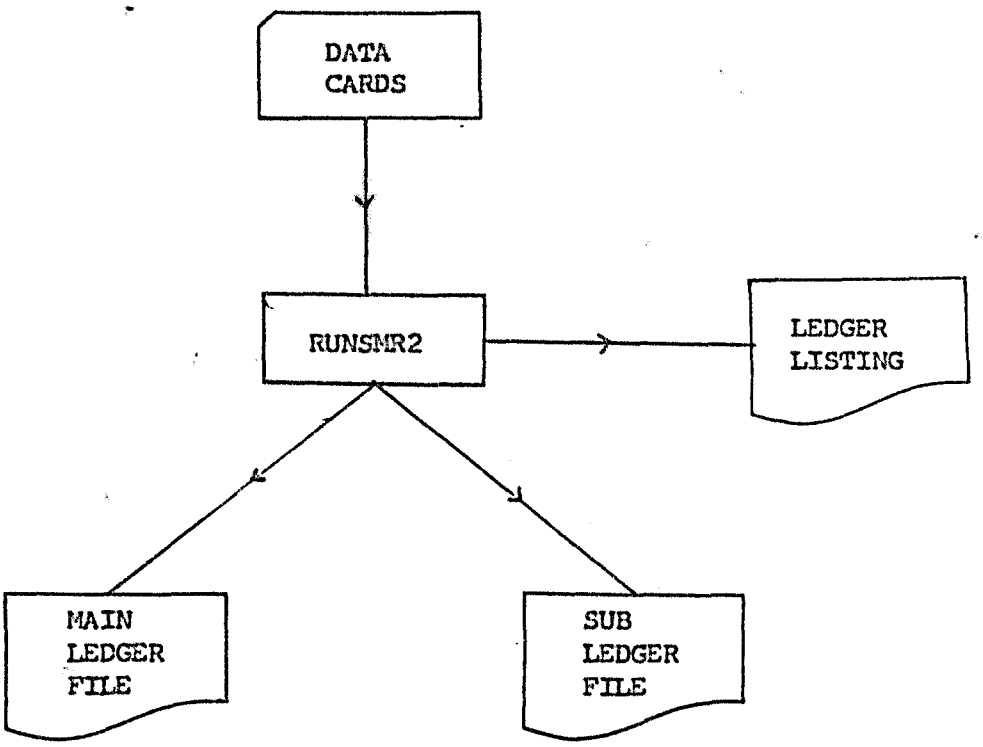
11) Go to 1.

12) Print ledger listing to output section (AB).

13) Stop.

SPONSORSHIP AND MISCELLANEOUS RECEIPT TRANSACTION



SPONSORSHIP AND MISCELLANEOUS RECIEPT TRANSACTION

DIRECT POSTING PROCESS

1. This process is combination of 2 process, sponsorship and miscellaneous receipts.

2. Sponsor will send the amount, name of student who should receive the scholarship.

3. Scholarship given usually for a smester or one academic year.

4. Process were done when data available.

5. RUNSMR1 is to check that all data are correct. When all the correction are done the card will be reedited.

6. RUNSMR2 will update the main and subledger.

7. Ledger listing will be produce to show the transaction.

8. Total amount must match the amount calculated in edit listing.

9. All the outpu listing must be produce in 2 copies.

VALIDATION PROGRAM

RUNSMR1

The program checks the input datas are correct. Print data on edit listing. Indicate errored data with '*' sign. Batch will be re-edited after correction.

INPUT : Data cards

Input Format

| Column | Description |
|---|---|
| 1 - 7 | Kod lejer |
| 8 - 8 | D/C |
| 9 - 18 | Jumlah |
| 19 - 28 | No. Rujukan |

PROCESS : 1) Read data at end go to 5.

2) Check:

i) That the jumlah is numeric.

ii) That kod lejer is numeric.

3) Go to 1.

4) Print edit listing, error indicated with '*'.

5) Stop.

OUTPUT : 1) Edit listing.

2) Validated data cards.

UPDATING PROGRAM

RUNSMR2

This program is to update main ledger and sub ledger file. Direct posting of the transaction will be shown in the ledger listing.

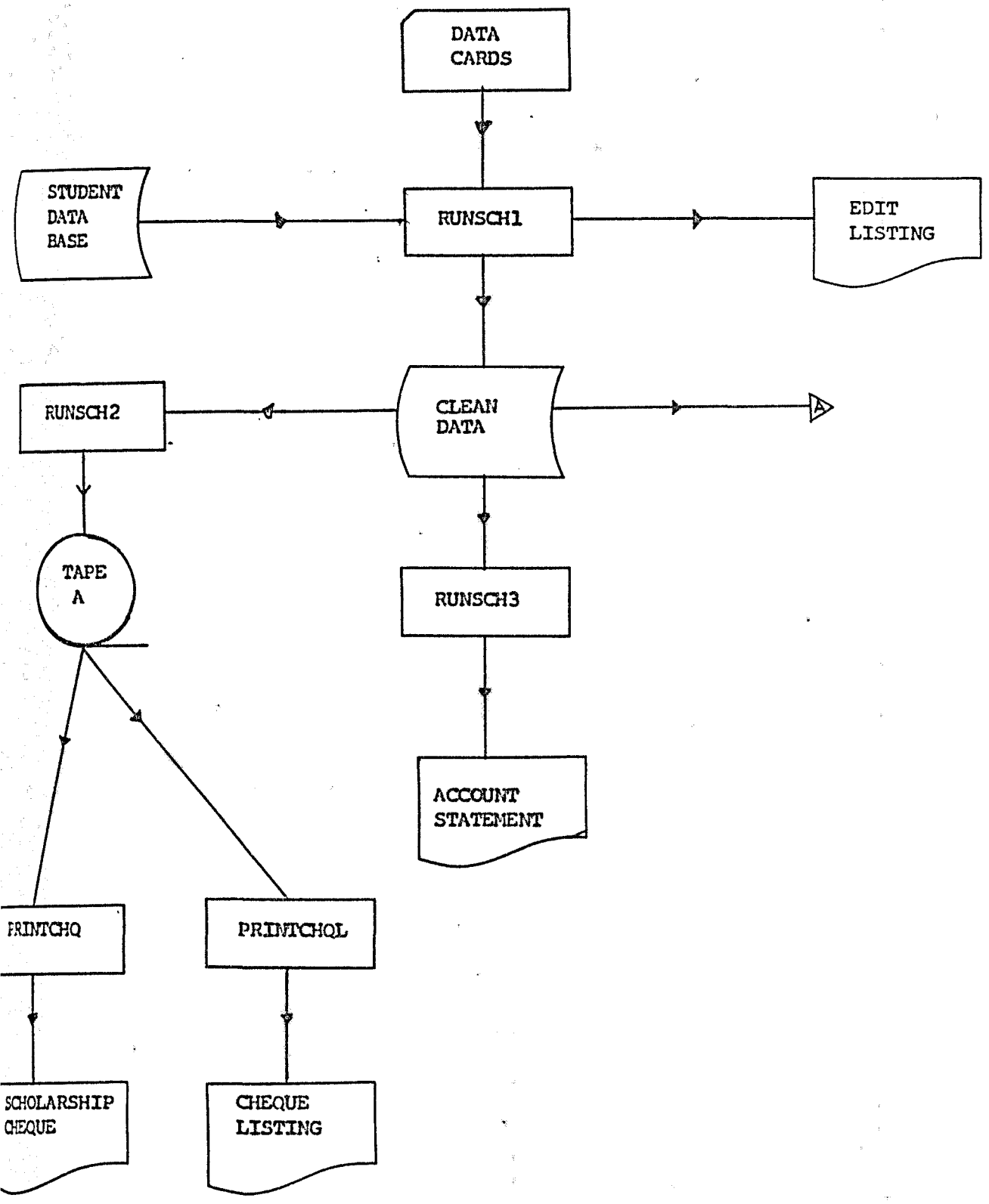
INPUT : 1) Validated Data Cards.
2) Main ledger file.
3) Sub ledger file.

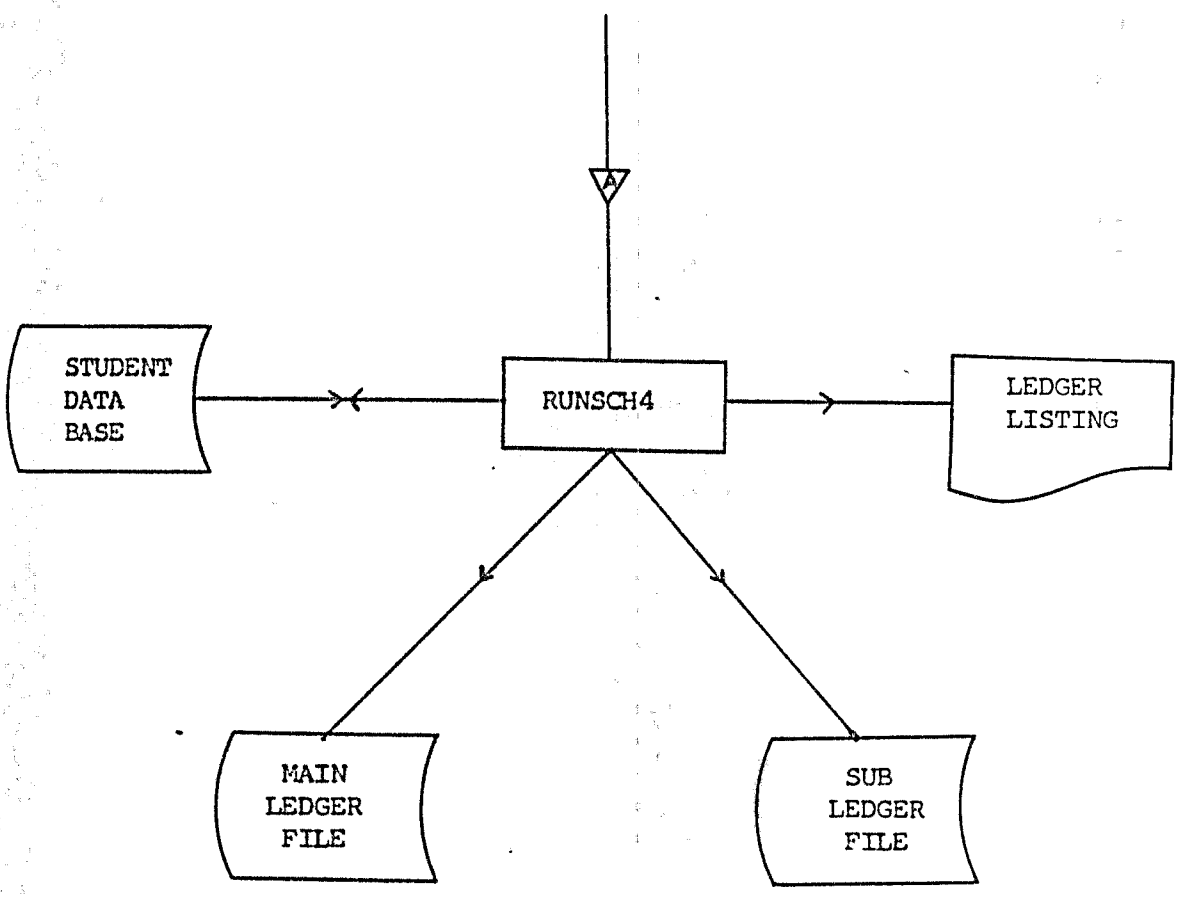
PROCESS : 1) Read validated cards at end go to 6.
2) Accumulate the jumlah according to the kod lejer.
3) Debit the kod lejer in the ledger when D/C equal D
4) Else credit.
5) Go to 1.
6) Update main and sub ledger.
7) Stop.

MAIN LEDGER

| Kod | Butir-butir | Dr. | Cr. |
|---|---|---|---|
| 7204000 | Pelbagai hasil dari pelajar | xxx | |
| 7201000 | Sewa Asrama | xxx | |
| 8101000 | Hemat Diri | | xxx |
| 9605000 | Perwira Habib Bank | | xxx |
| | Jumlah | xxxx | xxxx |

## SCHOLARSHIP PAYMENT TO STUDENT




A
STUDENT
DATA
BASE
RUNSCH4
LEDGER
LISTING
MAIN
LEDGER
FILE
SUB
LEDGER
FILE

SCHOLARSHIP

1. Scholarship payment process are done when sponsor send the money.

2. Scholarship usually given for a semester or one academic year.

3. Deduction for all charges are made before scholarship are given to student.

4. RUNSCH1 is to check that input data cards are correct. It also extract the data from student data base to edit listing and clean data store in temporary disc.

5. Edit listing is in the form of account worksheet.

6. RUNSCH2 will extract data from temporary disc to store on tape for cheque printing and cheque listing.

7. RUNSCH3 produce the Account statement.

8. RUNSCH4 update student data base, main and sub ledger file. It produce ledger listing showing the transaction.

Note:-

1. All listing produce should be in 2 copies, that needed to be file in sponsor files and scholarship files.

VALIDATION PROGRAM

RUNSCH1

This program checks the input data are correct. Data with errors will be indicated by '*' sign. When error free the edit listing will be in the form of account worksheet. Imformation to be extracted to the listing are:-

| From cards | From student data base |
|---|---|
| Sponsor code | nama |
| I/C number | Yuran asrama |
| Amount (given by sponsor) | Yuran makan |
| No. Voucher | Pendahuluan |
| Sessi/tahun | Denda |
| | Kursus |

All the fixed debit charges will be extracted to the temporary disc file.

Calculation involve here are:-

i) Accumulation of all the charges to each student.
ii) giving jumlah potongan.
ii) Accumulate each individual charges for each sponsor.
iii) Subtract jumlah potongan from Amount giving jumlah bersih. (amount given to student).
iv) Accumulate jumlah potongan, jumlah bersih and amount.

INPUT : a) Data cards.

Format of data cards.

| Column | Description |
|---|---|
| 1 - 8 | I/C number |
| 9 - 11 | Sponsor code |
| 12 - 17 | Amount ($) |
| 18 - 27 | Voucher Number |
| 28 - 31 | Sessi/tahun |

b) Student Data Base.

PROCESS:

1) Read data from card at end go to 10.
2) Compare I/C no. with data base.
3) Check for valid :-
   i) I/C no.
   ii) Sponsor code.
   iii) Amount.
   iv) Sessi/tahun.
4) If valid go to 5, else print data with '*' sign on edit listing, go to 1.
5) Extract data from student data base to edit listing and temporary disc.
6) Calculate jumlah potongan, jumlah bersih.
7) Accumulate all the charges.
8) Transfer to temporary disc files.
9) Go to 1.
10) Print edit listing.
11) Stop.

CUTPUT :

1) Clean data on temporary disc.
2) Edit listing.

RUNSCH2

This program transfer data from temporary disc to tape. The datas are : name, I/C no., and jumlah bersih. This tape is use as an input to PRINTCHQ and PRINTCHQL.

INPUT : 1) Clean data from temporary disc.

PROCESS: 1) Read data from disc at end go to 4.
2) Extract nama, I/C no. and jumlah bersih from temporary disc file to tape.
3) Go to 1.
4) Stop.

OUTPUT : 1) Tape A.

RUNSCH3

Student account statement are printed using this program complete details of the student account statement are stored in the temporary disc. This program extract the information from the disc to the output.

INPUT : Clean data from temporary disc.

PROCESS:
1. Message for operator to key in the year and semester code thru' console.
2. Read data from disc at end go to 6.
3. Extract information from disc to output.
4. Print pay-slip for each student.
5. Go to 2.
6. Stop.

OUTPUT : Account statement listing.

## SCHOLARSHIP PAYMENT

RUNSCH4

The program will update Student Data Base, Main and Sub ledger disc file.

INPUT :

1. Clean data.
2. Student Data Base.
3. Main and Sub ledger disc file.

PROCESS:

1. Read data at end go to 7.
2. Search student name in data base using FUNC-GU.
3. Balance both credit and debit giving nett zero to every account segment and to IN-STU-OWE field in the STU-INFOS segment.
4. Insert code 99 into STU-ACCTS segment.
5. Move scholarship amount to AC-CR-AMT and AC-DB-AMT in STUACCTS segment to the various code i.e 99.
6. Go to 1.
7. Update main and sub ledger disc file.
8. Finish.

TRANSACTION IN MAIN-LEDGER

| | | DEBIT | CREDIT |
|---|---|---|---|
| 8201 | Kawalan penganjur | 9 | |
| 9303 | Kawalan pelajar berpenganjur | | 9 |

TRANSACTION IN SUB-LEDGER

| | | DIBIT | CREDIT |
|---|---|---|---|
| 8201xxx | Kawalan penganjur | 9 | |
| 9303xxx | Kawalan pelajar berpenganjur | | 9+9 |

MAIN LEDGER

| | | DEBIT | CREDIT |
|---|---|---|---|
| 9902 | Pendahuluan | 9 | |
| 9903 | Kumpulan pendahuluan | | 9 |

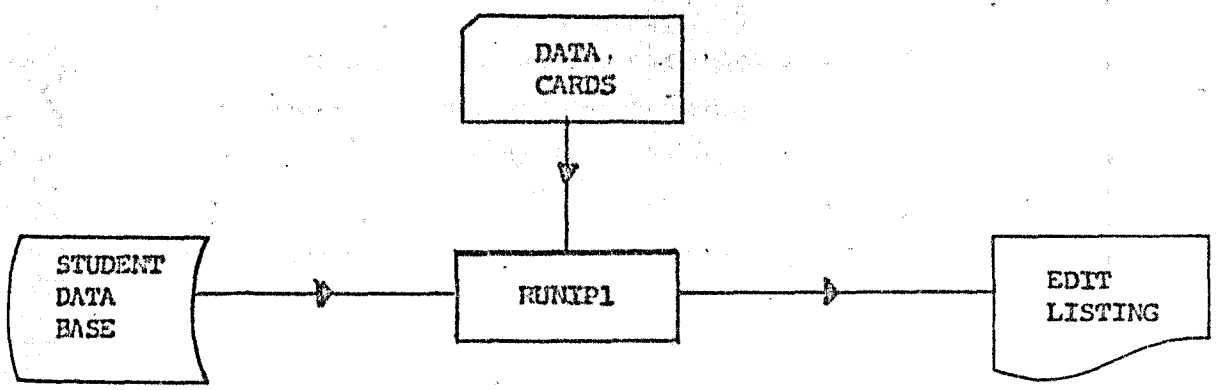
VOUCHER

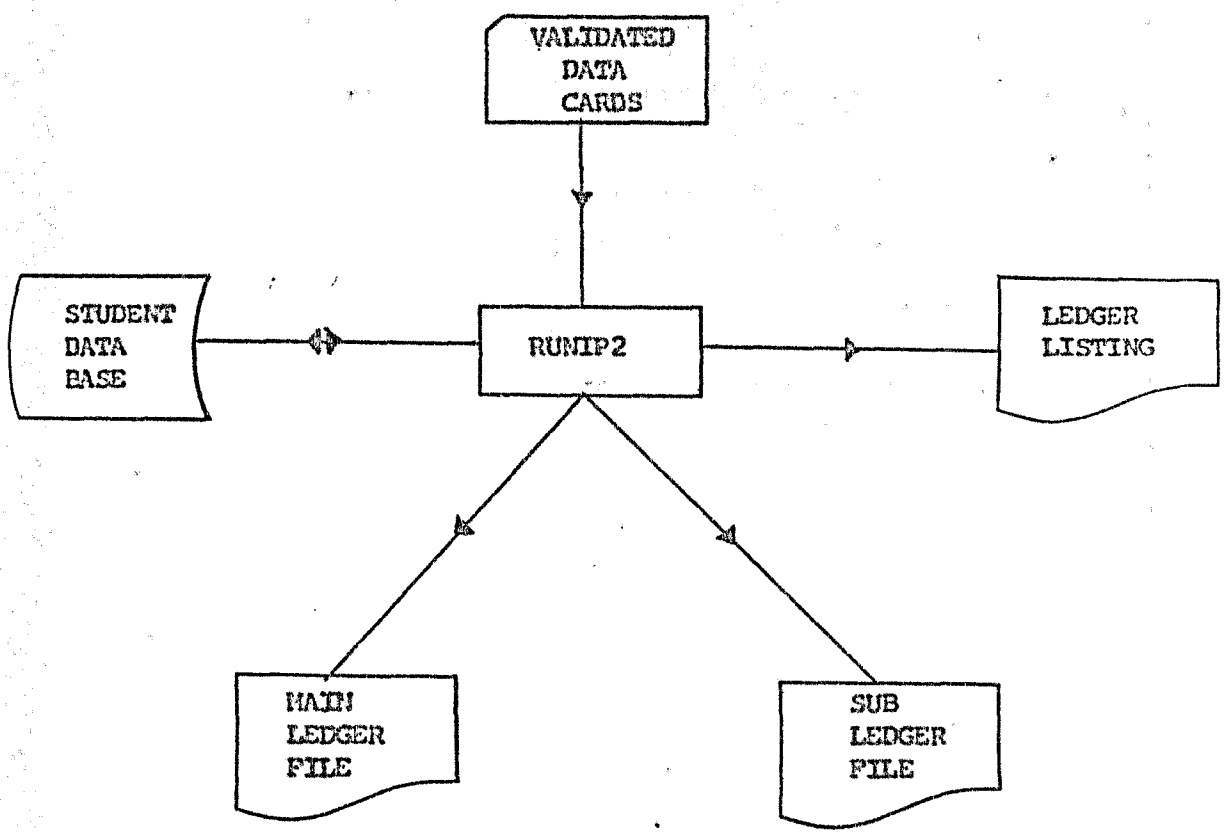
| | | DEBIT | CREDIT |
|---|---|---|---|
| 9605 | Habib Bank | | 9 |
| 9303 | Kawalan Pelajar Berpenganjur | 9 | |

OUTPUT :

1. Ledger Listing.
2. Updated Student Data Base.
3. Updated Main and Subledger.

INDIVIDUAL PAYMENT



INDIVIDUAL PAYMENT PROCESS

1. This process deals with payment made in cash, by those students who have extrac money, to pay their fees. Those student can be sponsored student, non-sponsored or private student.

2. Students must pay exact amount corresponding to the items e.g
   Tuition Fees; $270 for degree student.
   $225 for diploma student.

3. Three different categories of student can be identified by their ledger code

   e.g. 9303000 Kawalan Pelajar berpenganjur
   9304000 Kawalan Pelajar Swasta
   9305000 Kawalan Pelajar tak tahu Penganjur

4. When the cards are ready, RUNIP1 is process, where validation is made to the cards. Data with errors will be indicated with '**' sign.

5. RUNIP1 is process until all the cards are corrected and error free.

6. This validated cards will be use to process RUNIP2 where updating is made to the student data base, main and sub ledger file.

7. Since the student have been debit charge before, there compare the value of the code account, credit the related value and find the nett balance by subtracting credit value from debit value.

8. Listing produce is the ledger listing, to show the transaction of the account.

Note:

1) All the listing should be produce in two copies. One to be file in the student file and one in the individual payment file.

VALIDATION PROGRAM

RUNIP2

This validation program is to check that all data are correct. Using I/C no. to search student record in student data base. Print data on edit listing. Those with error will be indicated by '*' sign.

INPUT : 1) Data Cards.
Input Format.

| Column | Description |
|---|---|
| 1 - 8 | I/C No. |
| 9 - 15 | Kod Lejer |
| 16 - 18 | Kod Penganjur |
| 19 - 20 | Kod a/c 1 |
| 21 - 22 | Kod a/c 2 |
| 23 - 24 | Kod a/c 3 |
| 25 - 26 | Kod a/c 4 |
| 27 - 28 | Kod a/c 5 |
| 29 - 30 | Kod a/c 6 |
| 31 - 32 | Kod a/c 7 |
| 33 - 34 | Kod a/c 8 |
| 35 - 44 | No. Resit |
| 45 - 54 | No. JP |

2) Student Data Base.

PROCESS: 1) Read data from card at end go to 8.
2) Compare I/C no. with student data base.
3) If valid go to (4),
4) Check:-
i) Valid kod penganjur.
ii) Valid kod lejer.
iii) Valid kod afe's.
5) If not valid, print on edit listing with '*' sign, else print on edit listing and extract name from data base.
6) Go to read.
7) Repeat process (2) to (6) until all the data are correct.
8) Stop.

OUTPUT : 1) Edit listing.

UPDATING PROGRAM

RUNIP2

This program is to update student data base, main and sub ledger. The amount is added to total credit amount in the year segment and also credit individual payment segment is created to the account segment. The amount in IN-STU-OWE segment will be subtracted whenever payment is made.

INPUT : 1) Validated data cards.
2) Student Data Base.
3) Main and sub ledger file.

PROCESS: 1) Read validated card at end go to 7.
2) Locate STU-INFO, STU-YEAR and STU-ACC segment by using the I/C no. as the key for function (GU).
3) Update Student Data Base;
i) By using the kod a/c search the AC-CODE segment then insert the amount in AC-CR-AMT segment.
ii) Deduct value of AC-DB-AMT from value of AC-CR-AMT giving the nett balance.
iii) Deduct value of the IN-STU-OWE segment the amount credited in the AC-CR-AMT.
4) Update main ledger file;
i) Insert the total amount to Perwira Habib Bank segment (Dr).
ii) Insert the total amount to Kawalan Pelajar Berpenganjur segment (Cr).
5) Update subledger file;
i) Insert the total amount to Kawalan Pelajar Berpenganjur segment (Cr).
6) Go to 1.
7) Produce ledger listing to show the transaction.
8) Stop

OUTPUT : 1) Ledger listings.
2) Updated Student Data Base.
3) Updated Main and Subledger.

Transactionof the listing are as below:-

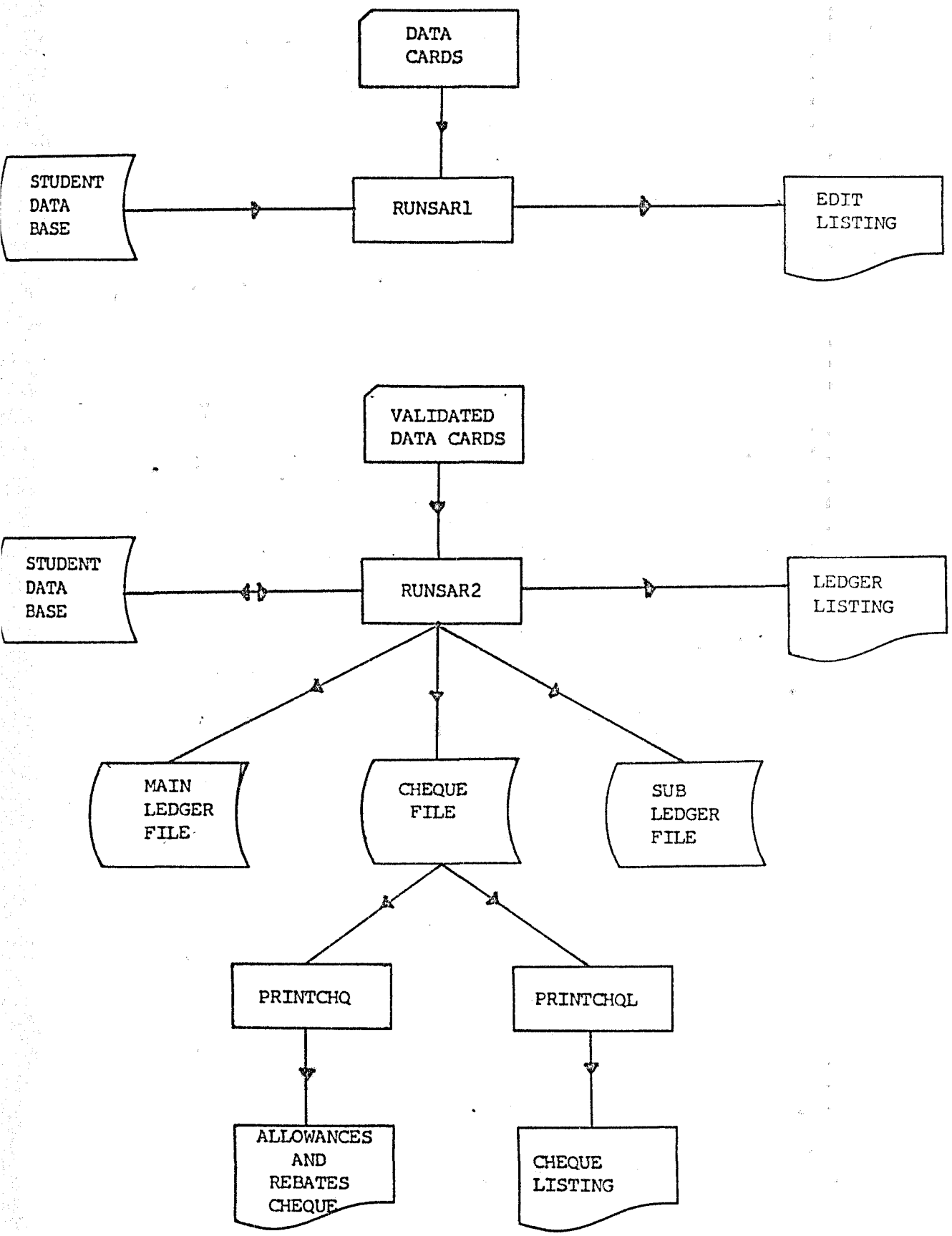
UNIVERSITI TEKNOLOGI MALAYSIA

TARIKH: XX/XX/XX

PEMBAYARAN OLEH PELAJAR BERPENGANJUR XXX

| BUTIR-BUTIR RESIT-RESIT | KOD | DEBIT | KREDIT |
|---|---|---|---|
| LEJER-LEJER AM PELAJAR | | | |
| KAWALAN PELAJAR BERPENGANJUR | 9303000 | | 9+ |
| LEJER-LEJER KECIL PELAJAR | | | |
| KAWALAN PELAJAR BERPENGANJUR | 9303xxx | | 9+ |
| LEJER-LEJER KECIL PELAJAR | | | |
| KAWALAN PELAJAR BERPENGANJUR BERKENAAN | 9303xxx | 9+ | |
| KIRA-KIRA SEMASA | | | |
| PERWIRA HABIB BANK - 022 | 9605000 | 9+ | |

STUDENT ALLOWANCE AND REBATES



RUN SAR1

This validation run is to check that input data cards are correct. Using I!C No. Search student record in Student Data Base. Extract the relevont name. Card identifier will identify whether it's allowance or rebate. Print all data on Edit Listing. Error indicated with '*' sign.

Input : 1. Input Data Cards.

Input Format.

| Column | Description |
|---|---|
| 1 - 8 | I/C No. |
| 9 - 10 | Kod a/c Allowance |
| 11 - 12 | Kod a/c Rebate |
| 13 - 15 | Kod penganjur |
| 16 - 17 | Kod a/c 1 |
| 18 - 23 | Jumlah 1 |
| 24 - 25 | Kod a/c 2 |
| 26 - 31 | Jumlah 2 |
| 32 - 33 | Kod a/c 3 |
| 34 - 39 | Jumlah 3 |
| 40 - 49 | No. Rujukan |

2. Student Data Base.

Process :

1. Read Input Data Card at end stop.

2. Check that,

a) I/C No. is equal with I/C No. in student data base. If not equal Move '*' to edit listing.

b) Kod penganjur is valid. If not valid Move '*' to edit listing.

c) Kod a/c 1, kod a/c 2, kod a/c 3, kod a/c 3, kod a/c 5, kod a/c 6 is equal to 06, 07, 08, 09, 22, 23 respectively.

d) Jumlah 1, jumlah 2, jumlah 3, jumlah 4, jumlah 5, jumlah 6, are numeric. If not move '*' to edit listing.

e) Card identifier is 10 for Rebate 90 for allowance.

3. Go to 1.

4. Print all data on edit listing. These with error will be indicated by '*' sign.

5. Stop.

Output : 1. Edit Listing.

2. Validated Input Cards.

| a/c code | subjects |
|---|---|
| 09 | Book allowance. |
| 22 | Practical allowance. |
| 23 | Travelling allowance. |

UPDATING PROCESS

RUN SAR2

This updating program is to update student data base, main and subledger.

Input :

a) Validated data card.
b) Student data base.
c) Main and Subledger file.

Process :

a) Begin.
b) Read data from validated cards at end go to (j).
c) Read student record using (GU) function.
d) Locate STU-YEARS.
e) Insert AC-CODE for rebates or allowance in STU-ACC segment.
f) Insert the amount for the rebates or allowance in the AC-DR-AMT and AC-CR-AMT.
g) Accumulate the total amount for various ledgers.
h) Go to b.
i) Print ledger listing.
j) Finish.

Output :

a) Updated Student Data Base.
b) Updated Main and Subledger disc file.
c) Ledger listing.

Ledger listing for Allowance.

UNIVERSITI TEKNOLOGI MALAYSIA

TARIKH: xx/xx/xx

LEJER-LEJER AM PELAJAR

| KOD | BUTIR-BUTIR | DEBIT | KREDIT | BAKI |
|---|---|---|---|---|
| 8201xxx | KAWALAN PENGANJUR BERKENAAN | 9 | | 9+ |
| | JUMLAH | 9 | | 9+ |
| 9303xxx | KAWALAN PELAJAR BERPENGANJUR BERKENAAN | 9 | 9 | +9+9 |
| | JUMLAH | 9 | 9 | 0 |
| 8201000 | KAWALAN PENGANJUR | 9 | | 9+ |
| 9303000 | KAWALAN PELAJAR BERPENGANJUR | 9 | 9 | 0+ |
| 9605000 | BANK (PERWIRA HABIB BANK-022) | | 9 | 9- |
| | JUMLAH | 9+9 | 9+9 | 0 |

Ledger listing for Rebates.

UNIVERSITI TEKNOLOGI MALAYSIA

(SIDANG AKADEMIK 19xx/xx. PENGGAL PERTAMA/KEDUA)

TARIKH: xx/xx/xx

LEJER-LEJER AKAUN PELAJAR (PEMULANGAN)

| KOD LEJER | NAMA PENGANJUR | DEBIT | KREDIT | BERSIH |
|---|---|---|---|---|
| 9303000 | KAWALAN PELAJAR BERPENGANJUR | 9 | 9 | 0+ |
| 9304000 | KAWALAN PELAJAR SWASTA | 9 | 9 | 0+ |
| 9605000 | KIRA-KIRA SEMASA PERWIRA HABIB BANK-002 | 0.0 | 9(2) | 9- |
| xxxxxx | VARIOUS ITEMS eg. Food, Hostels fees etc | 9 | 0.00 | 9+ |
| | JUMLAH | 9+9+9 | 9+9+9 | 0.00+ |

## **CONCLUSION**

By introducing student debit charge process we can detect the amount owe by each student, by reffering to the amount in the IN-STU-OWE segment.

The amount inserted in the IN-STU-OWE segment of the STUINFOS are the value, debited to every student. whenevr the student are being credit charge the amount in the IN-STU-OWE will then be subtracted.

In the existing system there are times where the processes are similar. In seeing this we then combined the similar process and identified them by a card identifier. They have the same input format.

Main ledger listing and subledger listing will be produce whem the Buaary needed them. These listings can be produce when by running PRINTML and PRINTSL respectively. The description of these program can be refered in Appendix (v).

# appendix

# C H A P T E R  E I G H T

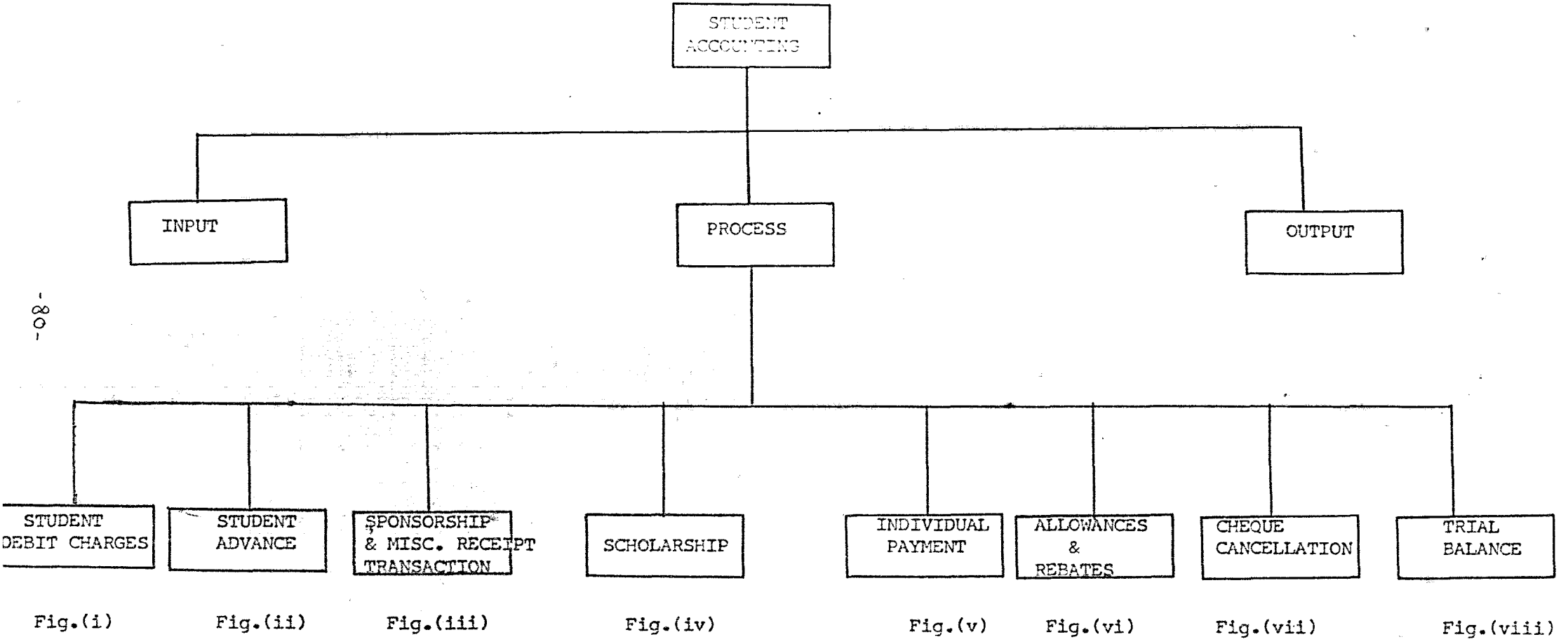

STUDENT ACCOUNTING
INPUT
PROCESS
OUTPUT
STUDENT DEBIT CHARGES
STUDENT ADVANCE
SPONSORSHIP & MISC. RECEIPT TRANSACTION
SCHOLARSHIP
INDIVIDUAL PAYMENT
ALLOWANCES & REBATES
CHEQUE CANCELLATION
TRIAL BALANCE
Fig.(i)
Fig.(ii)
Fig.(iii)
Fig.(iv)
Fig.(v)
Fig.(vi)
Fig.(vii)
Fig.(viii)

FIGURE A

FIGURE (i)

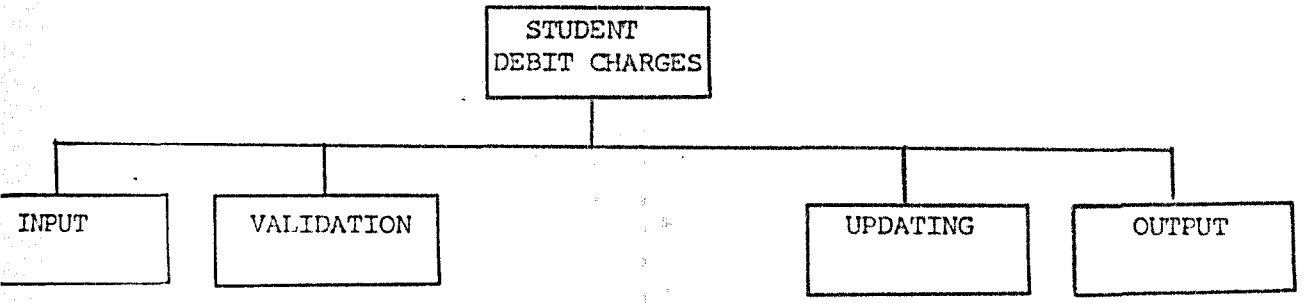



Fig.(iA)

Fig.(iB)

FIGURE (ii)

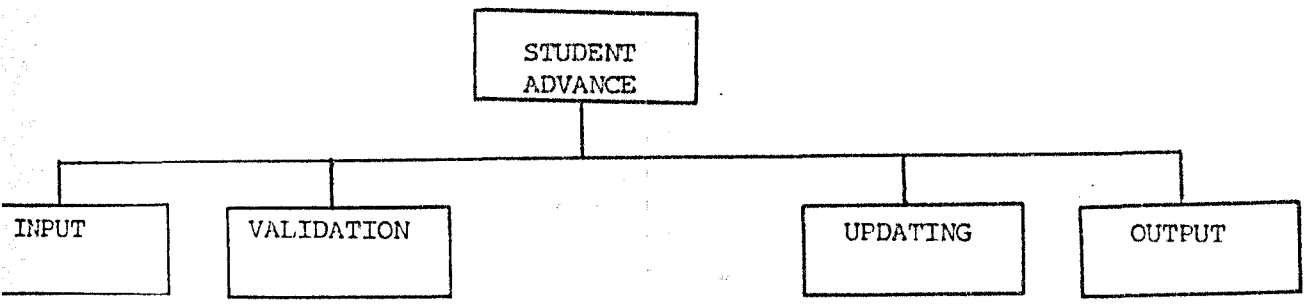



Fig.(iiA)

Fig.(iiB)

FIGURE (iii)

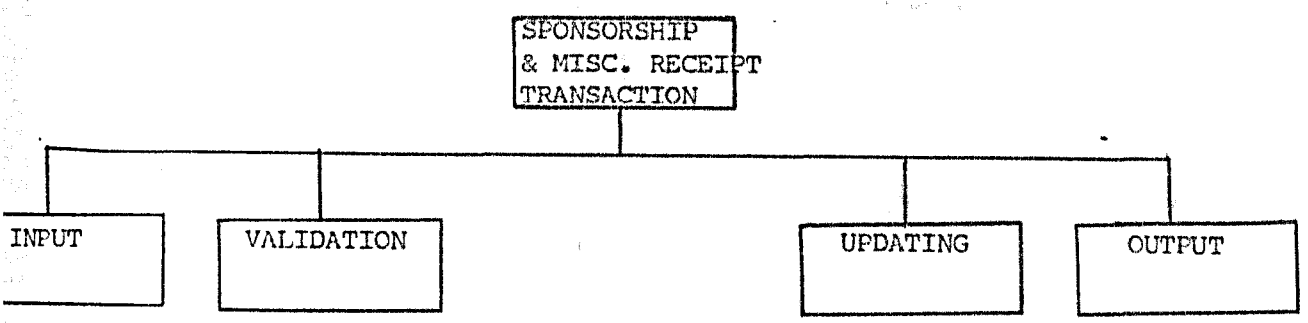



Fig.(iiiA)

Fig.(iiiB)

FIGURE (iv)

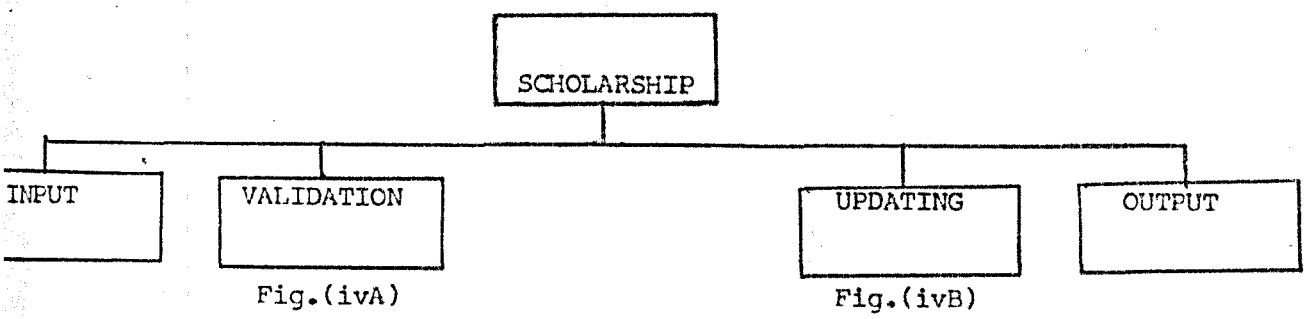



Fig.(ivA)

Fig.(ivB)

FIGURE (V)

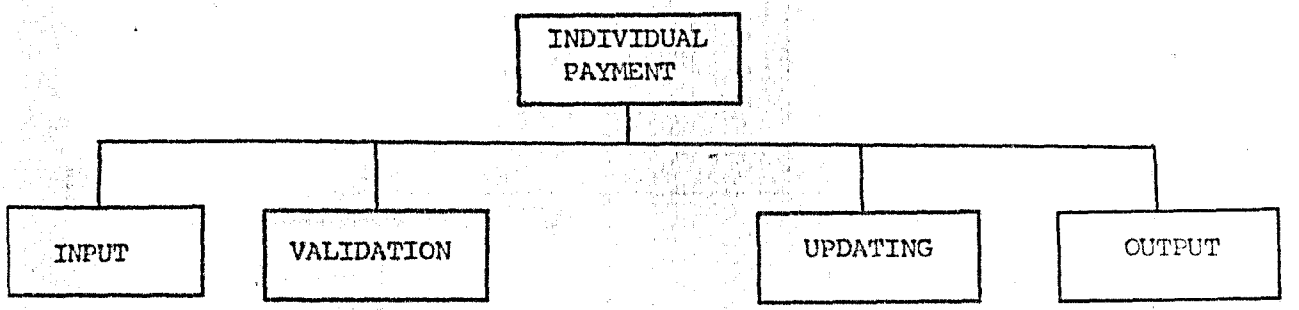



Fig.(vA)

Fig.(vB)

FIGURE (vi)

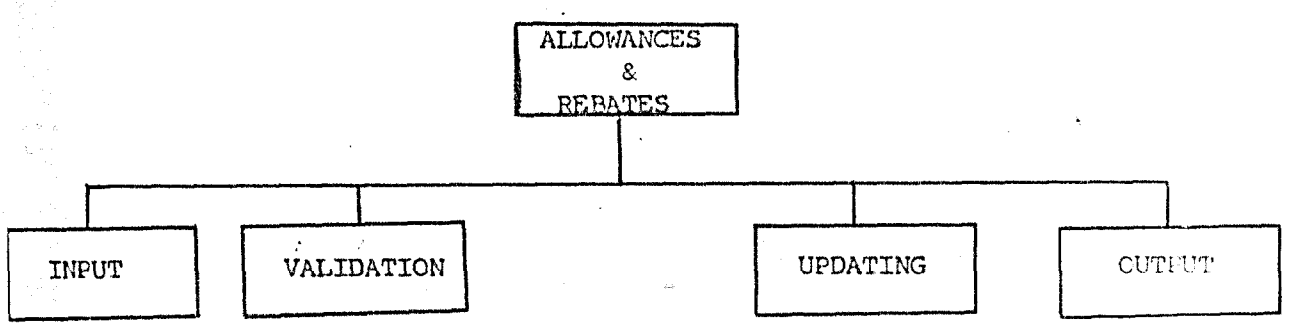
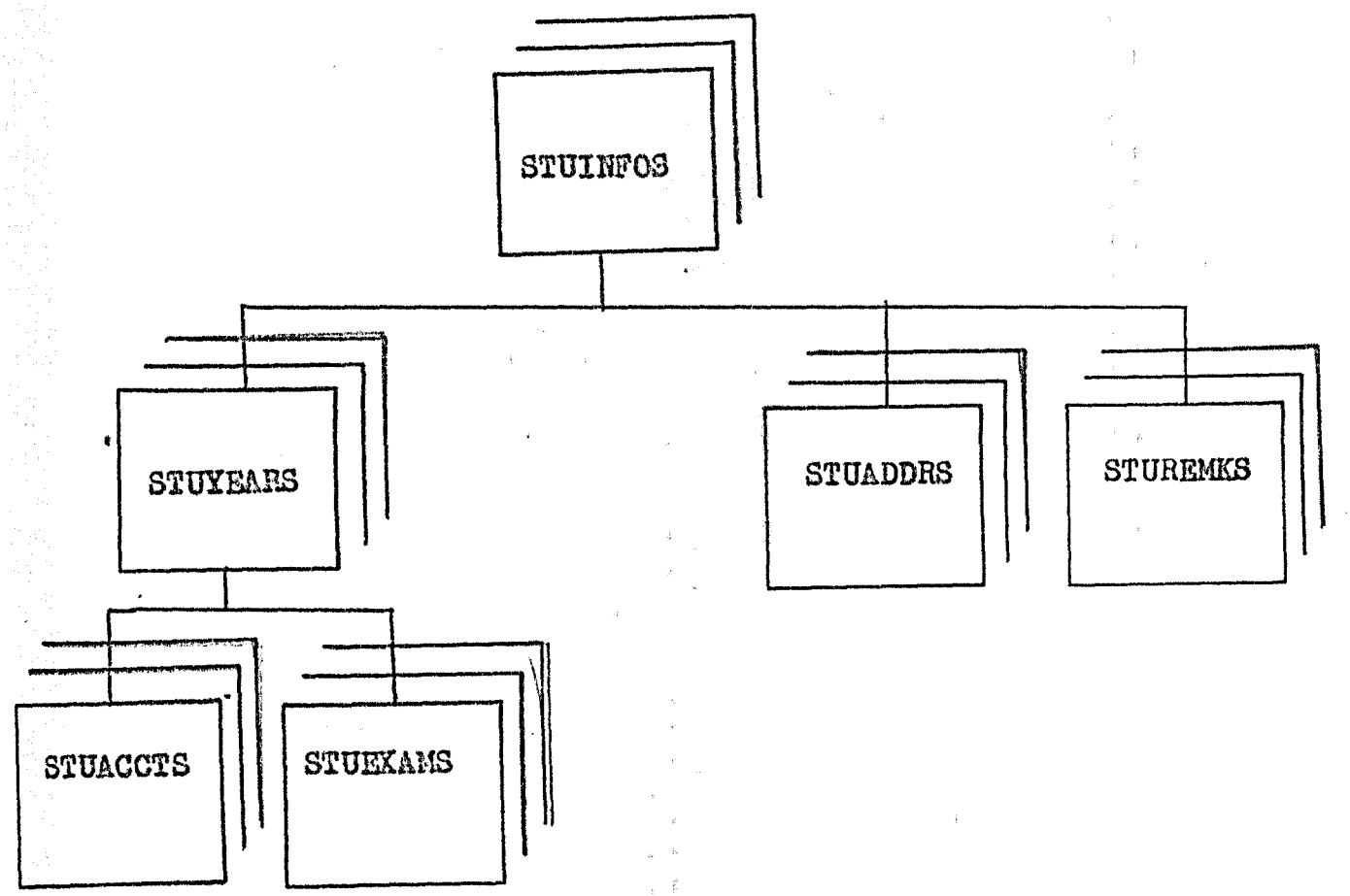



Fig.(viA)

Fig.(viB)

STUDENT DATA BASE




STUINFOS -- Student information segment

STUYEARS -- Stident year segment

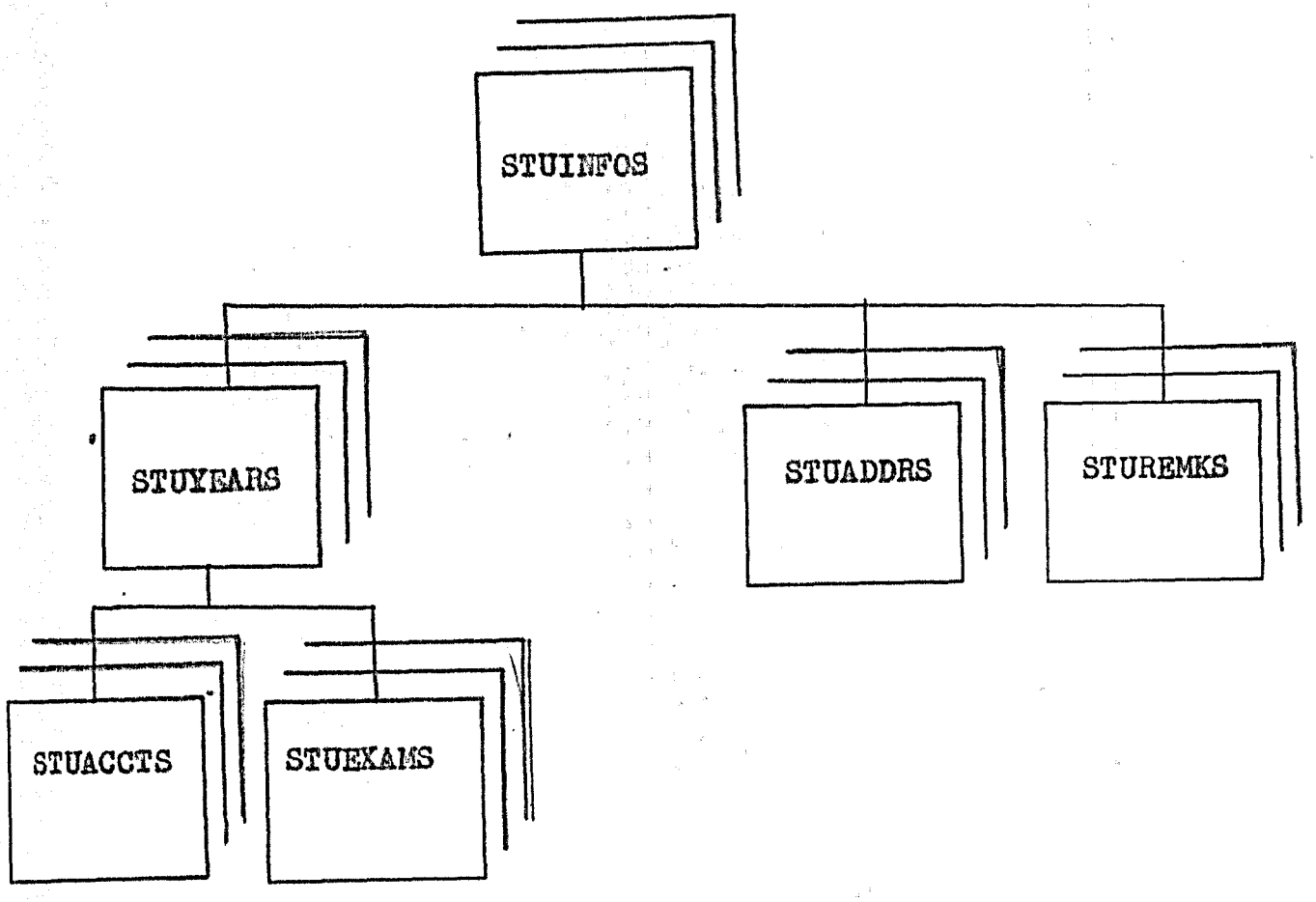
STUACCTS -- Student account segment

STUEXAMS -- Student exam segment

STUADDRS -- Student address segment

STUREMKS -- Student remark segment

STUDENT DATA BASE




STUINFOS -- Student information segment

STUYEARS -- Stident year segment

STUACCTS -- Student account segment

STUEXAMS -- Student exam segment

STUADDRS -- Student address segment

STUREMKS -- Student remark segment

STUINFOS

| FIELDS | BYTES |
|---|---|
| IN-IC-NO | X(8) |
| IN-MATRIC-NO | 9(6) |
| IN-REF-NO | 9(5) |
| IN-course | x(3) |
| IN-COURSE-YR | 9 |
| IN-ENROL-YR | 9(2) |
| IN-NAME | X(30) |
| IN-IC-COL | X |
| IN-SEX | 9 |
| IN-RACE | 9 |
| IN-MAR-STAT | 9 |
| IN-CITIZEN | X |
| IN-BIRTH-STATE | X |
| IN-RES-STATE | X |
| IN-BIRTH-DATE | 9(6) |
| IN-SPONSOR | 9(3) |
| IN-SCH-AMT | 9(4)V99 |
| IN-HEMAT-DIRI | 9(2)V99 |
| IN-loan-DATE | X(6) |
| IN-LOAN | 9(4)V99 |
| IN-CIT-NO | X(6) |
| IN-STU-OWE | X(6) |
| IN-RESERVE | X(20) |

STUYEARS

| FIELDS | BYTES |
|---|---|
| YR-KEY: | |
| YR-CODE | 9(4) |
| YR-SEQN | 9 |
| YR-BLOCK-NO | X(2) |
| YR-ROOM-NO | 9(3) |
| YR-RESULT | X |
| YR-NO-SUBJECTS | 9(2) |
| YR-AV-MARKS | 9(2)V99 |
| YR-NO-SUBJ-RET | 9(2) |
| YR-RET-RESULT | X |
| YR-REPEAT-IND | X |
| YR-TOTAL-DB | 9(4)V99 |
| YR-TOTAL-CR | 9(4)V99 |
| YR-TOTAL-NETT | 9(4)V99 |

STUACCTS

| | BYTES |
|---|---|
| AC-KEY: | |
| AC-CODE | 9(2) |
| AC-seqn | 9 |
| AC | |
| AC-COUNT | 9 |
| AC-RESERVE | X |
| AC-DB-DATE | X(4) |
| AC-DB-AMT | 9(4)V99 |
| AC-CR-DATE | X(4) |
| AC-CR-AMT | 9(4)V99 |
| AC-NETT | 9(4)V99 |

STUADDRS

| | |
|---|---|
| AD-CODE | X |
| AD-NAME | X(30) |
| AD-OCCUP | X(15) |
| AD-SALARY | 9(4)V99 |
| AD-ADDRESS | |
| AD-ADDR-1 | X(30) |
| AD-ADDR-2 | X(30) |
| AD-ADDR-3 | X(30) |

STUEXAMS

| | |
|---|---|
| EX-KEY | |
| EX-CODE | X(6) |
| EX-RET-IND | X |
| EX-MARKS | 9(2)V99 |
| EX-GRADE | X |

STUREMKS

| | |
|---|---|
| RE-CODE | X |
| RE-DESCR | X(60) |

PRINT ML

Objective is to print out the transaction of the main ledger file.

INPUT:

1) Main ledger file (disc)

PROCESSING:

1) Print main ledger file

OUTPUT:

1) Output listing.

PRINT SL

To print the transaction of the sub ledger file.

INPUT:

1) Sub-ledger file

PROCESSING:

1) Print sub ledger file

OUTPUT:

1) Output listing

# CARD LAYOUT

| DATE | SHEET NO. |
|---|---|
| | |

APPLICATION

PREPARED BY

FILE-ID

DESCRIPTION STUDENT ADVANCE PROCESS

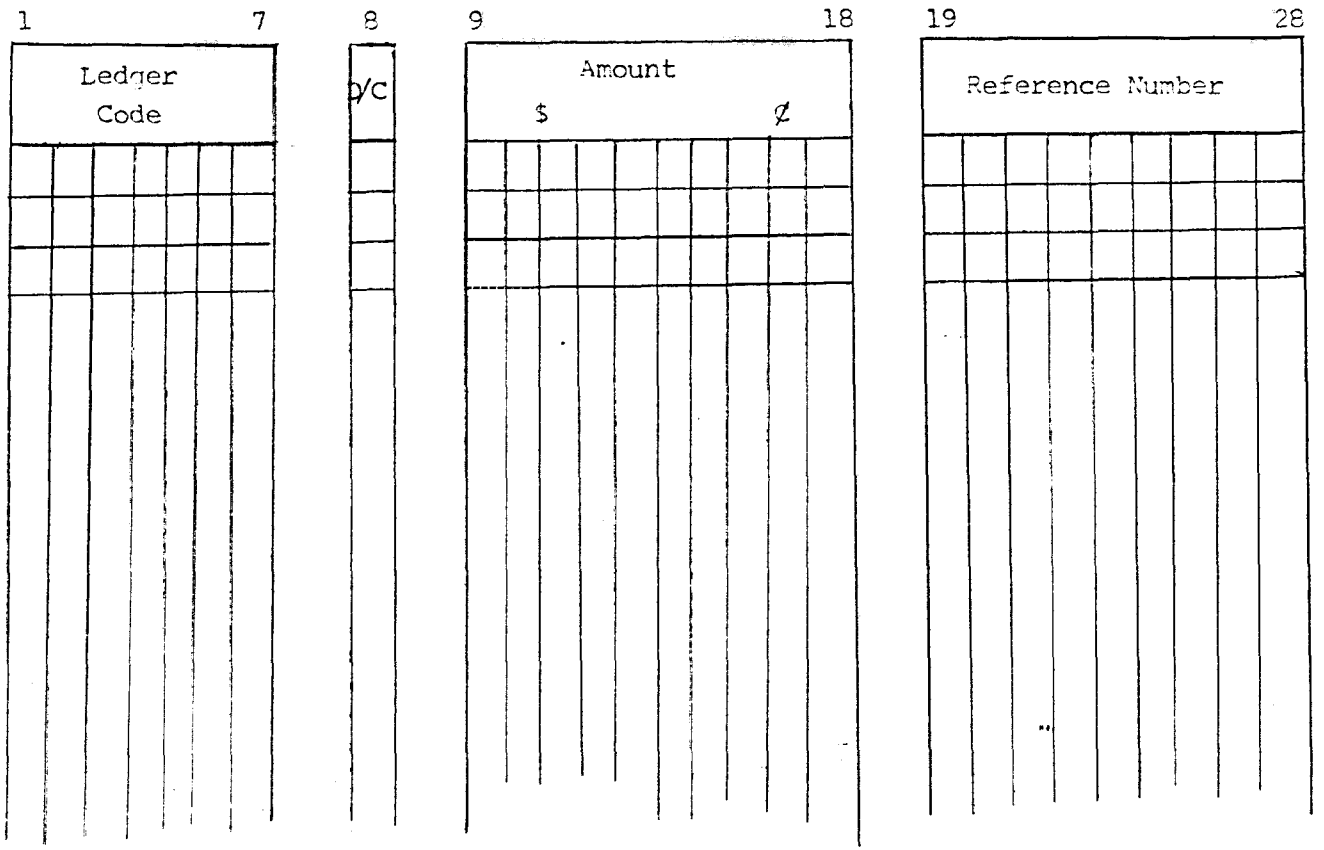
| 1-8 | 9-11 | 12-17 | 18-24 | 25-28 | 29-38 | 39-80 |
|---|---|---|---|---|---|---|
| IDENTITY CARD NUMBER | SPONSORE CODE | YEAR/ SEMESTER | AMOUNT ($) | COURSE | REFERENCE NUMBER | |

FILE-ID

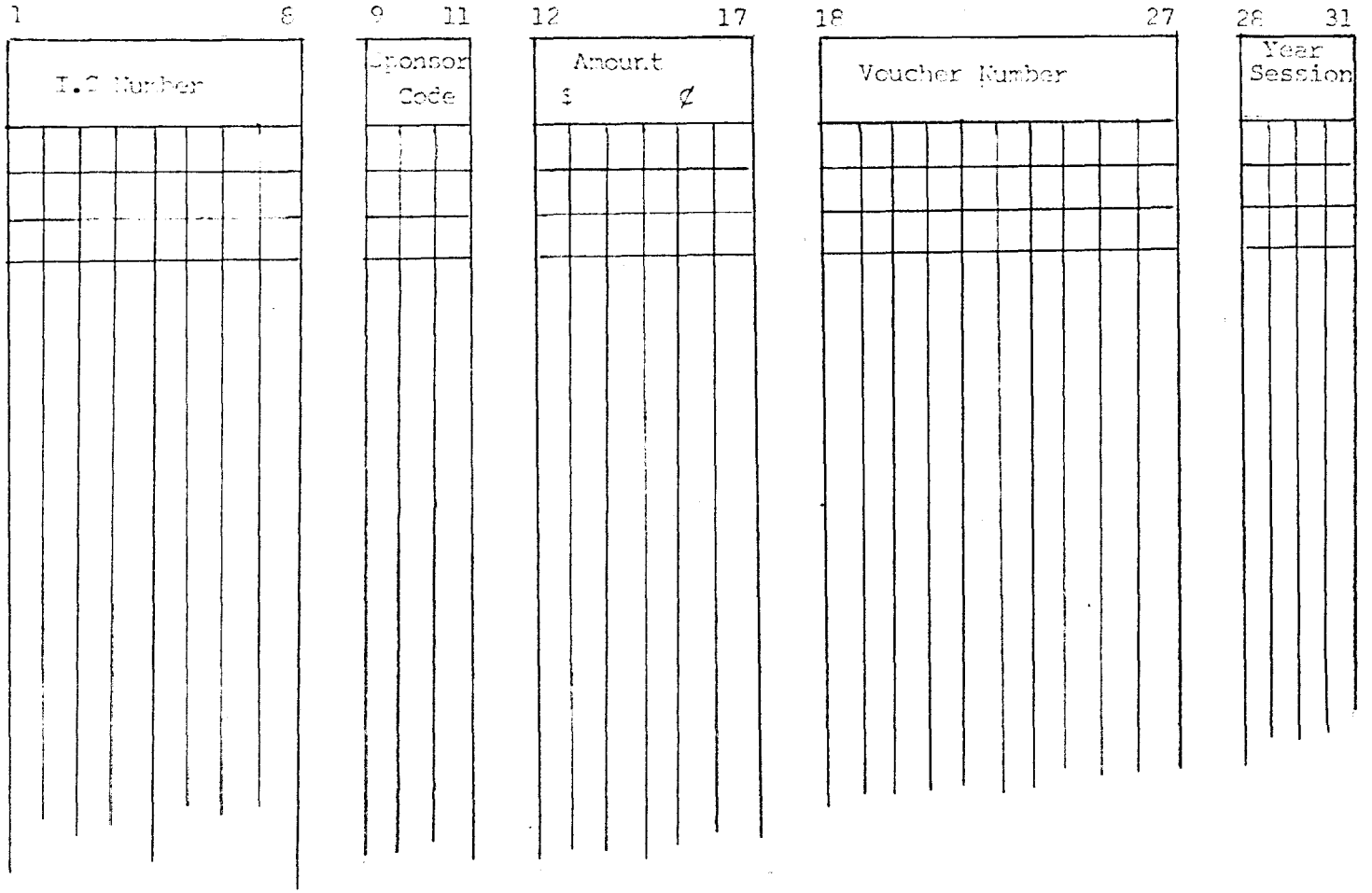
DESCRIPTION

NOTE: D/C

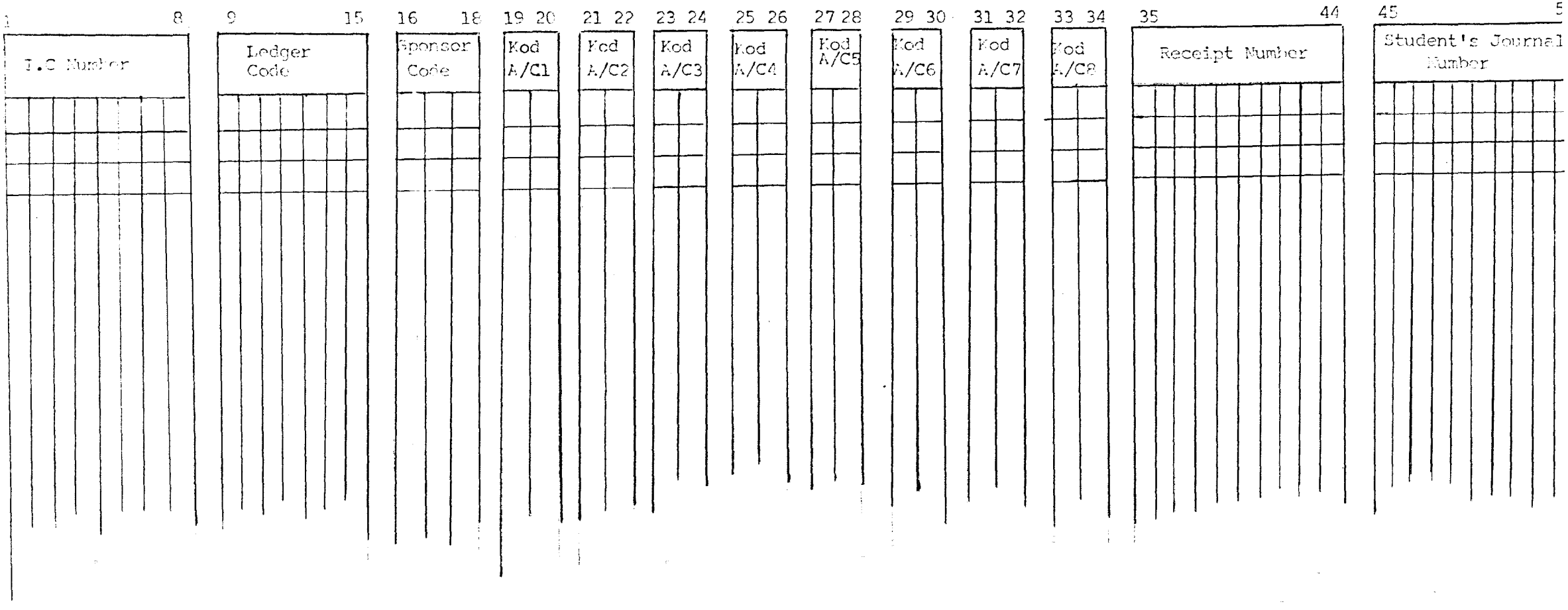
D - Debit
C - Credit



INPUT FOR SCHOLARSHIP PAYMENT TO STUDENT



INPUT FOR INDIVIDUAL PAYMENT

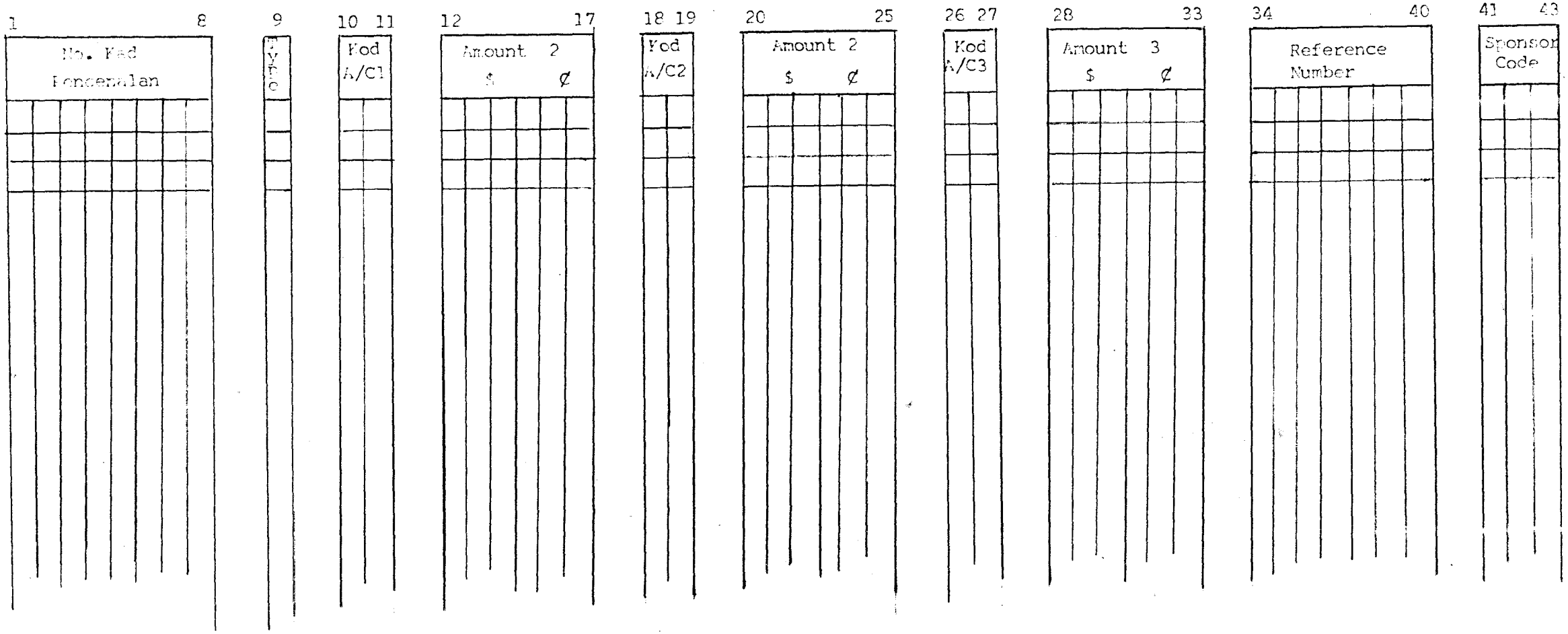


INPUT FOR ALLOWANCE & REBATES

NOTE: Type

1 - Allowance

2 - Rebate



# C H A P T E R  N I N E

REMARKS

This practical training have given us the knowledge of experiencing working life. It is totally different from school life, where we attend lectures, do assignments, test and most important things is to sit for the exams.

Working environment are enjoyable when your office-mates are friendly and helpful. At JPA we are treated as though we're one of ~~us~~ them. Any discussions or presentations we are required to attend and they even accept our views. The staffs there are willing to help us in our difficulties and problems.

Three months ~~training~~ practical training has taught us a lot, new knowledge, human relationships, communications gap and etc. The knowledge ~~we~~ we've gather helps us in our future undertakings especially when we're working.

For those students that are going to face this practical training, we would like to advise them to gather as much knowledge as they can by asking them what they do not understand and enquire any new subjects that of interest to you.

~~Thanks~~ The assignment that are given to us helps to understand a lot about student accounting. We would like to suggest the centres that are going to trained these students should give a life system for them to do, so that they really feels that they are doing the kind of work that should be done efficiently.

~~~~Gratan~~
~~~~