

**E-GRADING: ELECTRONIC GRADING OF LINEAR EQUATION
USING STRING SIMILARITY MEASURE**

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ABSTRACT

Nowadays most applications are carried out using Information Technology (IT). Through efficient electronic networking system people are able to communicate and interact actively and efficiently in terms of time. Through IT, learning and teaching is now done rather effectively via electronically.

This project discusses the effectiveness of using string similarity method in evaluating electronic answers on algebraic equations only for one variable submitted by the students. These electronic answers are then evaluated against given solutions. In order to measure the accuracy of this study, a Dice coefficient measuring approach is employed.

The efficiency of this electronic grading mechanism has now preliminary tested on 4 simple algebraic equations on 150 students. Result has shown that electronic answer with average Dice coefficient ≥ 0.8600 (86% matched) is accepted as correct answers. This implies that this study implicates a range of feasibility in electronic grading system.

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CHAPTER II

LITERATURE REVIEW

2.1 Introduction

String similarity measures are widely used in information retrieval to accept or reject retrieved information according to the query submitted by users to any on-line databases. If the information is displayed to the users, then this information or documents have the same query or some degrees of similarities of words contain in them. The same principle can be employed here to evaluate whether the answers submitted by the students' matches to some degree to the solutions provided.

2.2 String-Similarity Methods

String similarity methods are chosen based on similar problems found in the following applications. String similarity methods are widely used for solving problems in different areas such as operations research (Sedgewick 1983), computer science (Hirschberg 1977; Wagner & Fisher 1974), biology (Needleman & Wunsch 1970), speech processing (Velichko & Zagoruyko 1970; Vintsyuk 1968) and string