

**Universiti Teknologi MARA**

**Fuzzy Expert System to Evaluate  
Programming Question**

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## ABSTRACT

In the university education system, examination result is one of the factors that contribute to passing and fail in sentence course. The examination questions will measure the understanding and knowledge level of students. However, there are differences in background among computer science diploma level students. Some of students come from regular schools and some of them are from technical secondary schools that have been exposed with programming subject. Thus, their knowledge higher than others. Therefore, Fuzzy Expert System (FES) for Evaluate Programming is built. FES is a good decision making model that able to represent the expert programming knowledge in a system. The goal of this system is to develop FES that can help lecturers to provide the question paper that consider of all student skills and knowledge. This system is used by lecturers that teach programming course. Data to implement the FES system is the type level of control structure in programming question paper that contributes to the level of the question. This system will perform a several steps to get the result which are fuzzification of the input, perform the rule based process, rule aggregation and defuzzification process to produce the percentage level of the question. The result shows that the FES algorithm is precise to determine the level of programming question. In the future, to improve the result, the evaluation of programming question will use the factor of complexity of data and complexity of syntax in FES programming.

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