

The research is to develop a prototype of expert system shell by using rules based representation and forward chaining as the inference control mechanism. The designed inference engine has the specified functions to perform saving and loading facts to and from disk file during the consultation. A part of medical-bacterial identification knowledge is used as the domain knowledge for designing and testing.

The development of the shell was made on IBM PC XT running under PC DOS version 3.10. It was written in C and designed to be able to collect knowledge from user in the IF-THEN format. The system provides the consultation by acquiring facts from the user. This facts will be processed with the rules in the knowledge base.

Testing is made by using a part of medical-bacterial identification knowledge. The sample knowledge base contains 141 rules for identifying 73 species of bacteria. The identification method is derived from Lennette (Lennette, 1980). The results obtained by the consultations give the expected results.