

CHAPTER 3

RESEARCH METHODOLOGY

The file search application uses Java programming language, Knuth-Morris-Pratt algorithm, Wildcard Character, Linked List data structure, and Java GUI. Linked List as data structure used to store file's data. It will be compute using Knuth-Morris-Pratt (KMP) algorithm. The research methodology begins with learning about how to use the KMP algorithm to perform the searching task, also how to use Linked List data structure to perform data storage are analized in this step. All the terms above learned during literature study step. The result from literature study used during analysis step.

The analysis step that has been through will be continue with design step. Design step explains the process of the program by create flow chart. Flow chart explains the sequence processes of the program. The use case diagram is also created at this step. Use case diagram explains what the process is done by the system from the perspective of the user.

Designs that have been visualized in the form of flow chart and use case diagram, then implemented using Java. The program will first determine the class diagram. Class diagram created first, then implemented using Java. It also created after finish use case diagram.

The program that already implemented with Java, then need to be tested at testing step. Testing step will determine whether the program is running properly or not. The program which contain errors will be analyzed and repaired. Testing step performed several times to make sure the program is working properly. The final step is to draw conclusions about how the performance of application that have been developed.