CHAPTER 3
RESEARCH METHODOLOGY

The first step is learn about data structure and algorithm that will be used in this project. It starts with studying about minimum spanning tree, then Kruskal and Prim algorithm. In learning the algorithms, some references from book and journal is used. Analyzing how minimum spanning tree and the algorithms works is needed to determine the design and the way this program works.

The design step is needed before creating the program. The design should be specified by make a flow chart. The next step is creating user case diagram and class diagram so it can be used as guide in writing Java code. The display of the program's output should be specified. The form of the graph also needed to be determined.

The next step is implementation. Design that have been created then implemented into Java program. Program is written by adapting class diagram which had made before. The method of each algorithms are also implemented on the program.

Program that already completed need to be tested first at the testing step. Test is needed to find out if there still a bug or error in the program. The test should be done multiple times with different case or sample, to make sure the program works properly. On the testing process, whether the algorithms implemented correctly or not is also checked. Then, conclusion will be drawn based on the testing process.