

## CHAPTER 3

### RESEARCH METHODOLOGY

This project was completed by using four major step, there are:

#### **3.1 Understanding Concept**

Learn about basic concepts from various sources such as journals, books, and web. Source for references are containing *Counting* and *Radix* sorting algorithms, basis of web-application programming, and establishment of algorithm visualizations.

#### **3.2 Making Design Pattern**

Design pattern creates in form of flowcharts diagram from entire application and algorithms. Flowchart diagram from entire application is mainly used as blueprint of application. On the other hand, flowchart of algorithms uses as a guide to composing algorithms function and creating animation about sorting algorithm.

#### **3.3 Composing Application**

Source code is composes based on use case and flowcharts diagram that have been created. This step will be done in sequence by setting up the interface, implementing algorithm into function, and transferring data from algorithm to represent it on canvas with form of animation.

#### **3.4 Testing Application**

Testing entire application including interfaces, algorithm functions, and animational performs are non-skippable step to discover existing algorithms function and animation faults.