CHAPTER 3
RESEARCH METHODOLOGY

1. **Literature Study**

   This process is collecting and reading journals that related to detect jaundice with various method. All this journals as a references for the projects and programs.

2. **Collecting Sample Images.**

   This project will use 100 image mix of a jaundice sufferer and a healthy person, and is randomized based on ages from infants to adults, sample images will be taken from several health website and google image

3. **Implementation with programs.**

   Make a program to convert images from RGB color space to HSV color space, find the color value of jaundice (pre-processing), determine the color range of jaundice, then make a program to detect areas exposed to jaundice, after that make a program to draw contour lines against the exposed area, this program will be made in the python programming language

4. **Testing**

   The test program is carried out with the data that has been collected, this project will use 100 data containing disease patients, healthy people, or both in one image, there are 8 types of tests. The first program will be a test of all data and then based on age, in our age category we divide into 4 age groups namely children, adolescents, adults and the elderly, then we test based on race, in our race category we divide 3 racial groups Asian, Negroid and Caucasian

5. **Analyze**

The analysis is can this program will run perfectly even with the blurry image or noise image, or there is some issues when this program detecting jaundice