Assignment-1

Sub: Software Testing and Analysis –Elective II

1. Explain the different variants of Equivalence Partitioning with a simple example for each.
2. A program reads three numbers A, B and C within the range [1, 50] and prints the largest number. Design test cases for this problem using BVA, Robust testing and worst case testing methods.
3. Consider a software module that is intended to accept the name of a grocery item and a list of the different sizes the item comes in, specified in ounces. The specifications state that the item name is to be alphabetic characters 2 to 15 characters in length. Each size may be a value in the range of 1 to 48, whole numbers only. The sizes are to be entered in ascending order (smaller sizes first). A maximum of five sizes may be entered for each item. The item name is to be entered first, followed by a comma, and then followed by a list of sizes. A comma will be used to separate each size. Spaces (blanks) are to be ignored anywhere in the input. (Consider the partitions to be input based).
   a. For the above given scenario, list the valid and invalid partitions/equivalence classes.
   b. Derive weak normal and strong normal test cases
4. The triangle program accepts three integers, a, b, and c, as input. These are taken to be sides of a triangle. The output of the program is the type of triangle determined by the three sides: Equilateral, Isosceles, Scalene, or Not A Triangle. The integers a, b, and c must satisfy the following conditions:

   c1: $1 \leq a \leq 200$
   c2: $1 \leq b \leq 200$
   c3: $1 \leq c \leq 200$

   For the above scenario,
   a. Construct Normal Boundary Value Analysis test cases.
   b. Identify the valid and invalid classes of the input variables.
   c. Write the set of weak normal and weak robust test cases.
5. Answer the following
   a. With a real world example differentiate between verification and validation.
   b. Explain the steps in forming decision table.
   c. With a real world example explain different extensions of BVA.