CS 303 – Software Engineering – Fall 2018 – Quiz 5

Name:
Roll Number:
3+1+3+3=10 Marks

Consider the following code with line numbers mentioned:

```
1.public int binarySearch(int sortedArray[ ], int searchValue)
2.{
3. int bottom = 0, top = sortedArray.length - 1;
4. int middle, locationOfsearchValue;
5. boolean found = false;
6. int locationOfsearchValue = -1; /* the index of searchValue in the
                                    sortedArray. -1 means not found */

7. while ( bottom <= top && !found){
8.   middle = (top + bottom)/2;
9.   if (searchValue == sortedArray[ middle ]) {
10.          found = false;
11.          locationOfsearchValue = middle;
12.   }
13.   else
14.          if (searchValue < sortedArray[ middle ])
15.              top = middle – 1;
16.   }
17.   else
18.          bottom = middle + 1;
19. } // end while
20. return locationOfsearchValue;
21.}
```

To do:

a. Draw Control flow graph or Flow Chart of above code

b. Calculate cyclomatic complexity

c. Identify all paths to achieve 100% statement and branch coverage

d. Write test cases for each independent path