ECE 322

SOFTWARE TESTING AND MAINTENANCE

Fall 2019

Assignment #5

Due date: Friday, November 8, 2019 by 3:00 PM
(return to the appropriate box- ECE 322 A1 - 2nd floor of DICE building)

Total: 30 points

10 points

1.For the piece of code shown below show def-clear paths.

```
public static double ReturnAverage(int value[],
                        int AS, int MIN, int MAX){
  /*
  Function: ReturnAverage  Computes the  average
  of all  those  numbers in the  input array  in
  the  positive  range  [MIN, MAX]. The  maximum
  size  of the array is AS. But, the  array size
  could be smaller than AS in which case the end
  of input is represented by -999.
  */
    int i, ti, tv, sum;
    double av;
    i = 0; ti = 0; tv = 0; sum = 0;
    while (ti < AS && value[i] != -999) {
        ti++;
        if (value[i] >= MIN && value[i] <= MAX) {
            tv++;
            sum = sum + value[i];
        }
        i++;
    }
    if (tv > 0)
        av = (double)sum/tv;
    else
        av = (double) -999;
    return (av);
}
```

2. Write a function in C such that the *all-uses* coverage criterion produces more test cases than *branch* coverage criterion.

3. Using the modified condition/branch coverage criterion, propose test cases for the following expression

$$(a \parallel b) \ \&\& \ (c \parallel d)$$

Note that the test set is not unique; show all possibilities.