

CS172 Quiz 3

Note: This is an open book quiz. You can refer to any book, slides, videos, or other online resources. However, your work must be independent and should not get help from another person. You can choose to write on this Word document directly, or hand writing on a hard copy and scan it before uploading to D2L.

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Score _____

1. (8 points) Read the following Java sentences. Write the final result of value, and show the intermediate results if possible. Please explain if you think the program has logic error.

a.

```
int value = 0;
while(value >= 0)
{
    value = value + 2;
}
```

This program will run indefinitely since it will always have $value \geq 0$. First run will be 2, then 4, 6, and so on. No break to stop the while function.

b.

```
int value = 10;
do{
    value = value + 10;
}while(value <= 20);
```

The do function will take place with value equalling 20 but then stop there since the while loop is after the do. While loop also has a semi colon which it shouldn't.

c.

```
int i=1, value = 0;
while(value < 12){
    value += i;
    i++;
}
```

will run the while loop until value becomes 15 which is greater than 12 so the while loop stops. No logic error on this one

d.

```
String sentence = "Hello Better";
for(int i=6; i<9; i++)
```

```
System.out.print(sentence.charAt(i));
```

The system will print out "Bet" and then the program will stop. For loop $i=6$ starts at B and goes to char position 8 and prints out all in between.

2. (6 points) Read the following codes. Write out the results of the printing sentences.

Please point it out if you think there is any logic error.

```
public class FirstArray {
    public static void main(String args[]){
        double [] salary = {3000, 5000, 1000, 4000};
```

```

double maximum = salary[0];
int maxindex = 0;
for(int i=0; i<salary.length; i++){
    if(salary[i] > maximum ){
        maximum = salary[i];
        maxindex = i;
    }
}

System.out.println(maximum);
System.out.println(maxindex);
}
}

```

This program will
print out:

5000.0
1

The 5000.0 is the
maximum and the maxindex
is 1. The program prints
this out then stops. As
far as I can tell the
program would run properly,
5000 is the max salary in
the array.

3. (8 points) Write Java codes in the following (not required to compile it) to do the following:

a. Declare an array named score of 6 components of type int and initialize every element to 80

(You can choose either way of initialization).

b. Set the value of the 6th component of the array score to 75, Set the value of the 1st component of the array score to 92, set the value of the 3rd component of the array score to 84.

c. Print out all elements, with each element in a separate line.

```

public class ArrayExample {
    public static void main(String args[]) {
        int score[] = {80, 80, 80, 80, 80, 80};
        // change sixth number to 75
        score[5] = 75;
        // change first number to 92
        score[0] = 92;
        // change third number to 84
        score[2] = 84;
        // print out each array element in own line
        for(int scoreprint : score)
        {
            System.out.println(scoreprint);
        }
    }
}

```