Foundations of Programming 2 Quiz

Time: 30 minutes

Lecturer: Raja Damanik, M.Sc.

Student ID (NPM): 1706039950

Question 1. (20 points) What is the output of the following program? Provide explanation.

```
int i = 99;
int j = 999;
j = (++i) + 1;
i = j++;
System.out.println(i+" "+j);
```

Jawaban : 101 101 (i =101, j=101). Nilai i di pre-increment kemudian nilai j di-override sehingga nilai j berubah. Nilai j di post-increment lalu di-assign ke i sehingga nilai i sama dengan j.

Question 2. (20 points) What is the output of the following program? Provide explanation.

```
int i = 0;
if (i > 0)
      System.out.println("A ");
      System.out.println("B ");
      if (i == 0){
            System.out.println("C ");
      }
else{
      System.out.println("D ");
}
```

Jawaban : Outputnya hanya melakukan print "D". Karena, ketika diperiksa condition yang di if pertama, conditionnya false. Ketika if yang pertama tidak dijalankan, semua statement yang ada di dalam if tersebut tidak dijalankan, termasuk if yang kedua. Program akan langsung mengeksekusi statement yang ada di else.

Question 3. (20 points) Show the output of the following code: (write the output next to each println statement if the println statement is executed in the program).

```
public class Test {
  public static void main(String[] args) {

    System.out.println((int)(Math.random())); //0

    System.out.println(Math.pow(2, 3)); //8

    System.out.println(34 % 7); //6

    System.out.println(3 + 4 * 2 > 2 * 9);  //false

    int number = 4;

    if (number % 3 == 0)
      System.out.println(3 * number);

    System.out.println(4 * number); //16

    int x = 943;
    System.out.println(x / 100); //9
```

```
    System.out.println(x % 100); //43

    System.out.println(x + " is " + ((x % 2 == 0) ? "even" : "odd")); //odd

    int y = -1;
    y++;
    System.out.println(y); //0
  }
}
```

Question 4. (10 points) What is y after the following switch statement?

```
int x = 0;
int y = 0;
switch (x + 1)  {
    case 0: y = 0;
    case 1: y = 1;
    default: y = -1
}
```

Jawaban : y = -1. Karena, switch case nya tidak memiliki break, sehingga dari case 1, semua statement akan dijalankan sampai bawah.

Question 5. (10 points) Assume x is 0. What is the output of the following statement?

```
if (x > 0)
      System.out.print("x is greater than 0");
else if (x < 0)
      System.out.print("x is less than 0");
else
      System.out.print("x equals 0");
```

Jawaban : x equals 0

Question 6. (10 points) What is x after evaluating

```
x = (2 > 3) ? 2 : 3;
```

Jawaban : 3

Question 7. (10 points) What is the output of the following switch statement?

```
char ch = 'a';

switch (ch) {
        case 'a':
        case 'A':
            System.out.print(ch); break;
        case 'b':
        case 'B':
            System.out.print(ch); break;
        case 'c':
        case 'C':
            System.out.print(ch); break;
        case 'd':
        case 'D':
            System.out.print(ch);
```


Jawaban : a

Good Luck