Pharos University in Alexandria
Faculty of Computer Science &
 Artificial Intelligence
Level 1 – Semester 1 – Fall 2021/2022

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Pharos University in Alexandria

Programming 1
Course Code: CS 103
Lecturer: Dr. Sahar Ghanem
TA: Eng. Esraa Abdel Hamid
     Eng. Abdel Rahman
     Eng. Yara

<u>**Lab (5)**</u>
<u>**Week 7**</u>

1. **Draw a flowchart and write a Java program** to output the **maximum** of **4** marks for a student.
   a. Update the program to read **N marks** for a student instead of constant number 4.
   b. Update the program to handle **3 Students** instead of 1 student.
   c. Update the program to handle **M Students** instead of constant number 3.

2. **Trace the following code and show the output:**

a)
```
int rows = 5;
for (int i = rows; i > 0; i--) {
   for (int s = 1; s < i; s++) {
      System.out.print(" ");
   }
   for (int j = rows; j >= i; j--) {
      System.out.print("*");
   }
   System.out.println();
}
```

b)
```
int weeks = 3;
int days = 7;
// outer loop
for(int i = 1; i <= weeks; ++i) {
   System.out.println("Week: " + i);
// inner loop
   for(int j = 1; j <= days; ++j) {
      // continue inside the inner loop
      if(j % 2 == 0) {
         System.out.println("  Days: " + j);
      }
   }
}
```

3. **Write a program to compute the factorial of 4 numbers to be input by the user.**
4. **Write a program to compute the multiplication of N numbers to be input by the user.**