

Course No:
Course Title: Programming 1
Date: 23 / 05 / 2013 (09:00-11:00)
No. of Questions: 4 Questions
Time: 2 hours
Using Calculator (No)

University of Palestine

Final Term Exam
2nd semester 2012/2013
Total Grade: 50

Instructor Name: Mr.Ahmed Al Astal
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

First Question	No. of Branches (1)	(8/50)
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Q1 B1

(8/8)

Tick a ✓ for the best Answer:

1) What is the output of the following piece of code?

```
float f = 12.5F;  
int i = (int)f;  
System.out.println("i is " + i);
```

- ☐ i is 12.5
☐ i is 12

- ☐ i is 12.0
☐ i is 12.5

2) Which of the following is a possible output from invoking `Math.random()` ?

- ☐ 323.4
☐ 34

- ☐ 1.0
☐ 0.234

3) What is y after the following switch statement is executed?

```
x = 3; y = 3;  
switch (x){  
case 6: y = 1;  
default: y += 1;  
}
```

- ☐ 3.
☐ 1.

- ☐ 4.
☐ 6.

4) All the binary operators except = are left associative

☐ True

☐ False

5) How many times is the following loop body repeated?

```
int i = 1;  
while (i < 10)  
if (i % 2 == 0)  
System.out.println(i++);
```

- ☐ 1
☐ 10

- ☐ 9
☐ Endless Loop

6) How many iterations in the following Loop?

```
int count = 5;  
while (count < 16){  
count = count + 3;  
}
```

- ☐ 4
☐ 5

- ☐ 6
☐ 11

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7) Indicate true or false for the following statements:

- | | | |
|---|-------------------------------|--------------------------------|
| ☒ Every element in an array has the same type. | ☐ True | ☐ False |
| ☒ The array size is fixed after it is declared. | ☐ True | ☐ False |
| ☒ The array size is fixed after it is created. | ☐ True | ☐ False |

8) Which of the following statements are valid array declarations?

- | | |
|--|---|
| ☐ int i = new int(30); | ☐ double[] d = new double[30]; |
| ☐ char[] r = new char(1..30); | ☐ char[] c = new char(); |

9) Suppose that s1, s2, s3, and s4 are four strings, given as follows:

```
String s1 = "Welcome to Java";  
String s2 = s1;  
String s3 = new String("Welcome to Java");  
String s4 = "Welcome to Java";
```

What are the results of the following expressions?

1. s1 == s2
2. s1.equals(s2)
3. s1.compareTo(s2)
4. s1.lastIndexOf('a')
5. s1.charAt(0)

Second Question

No. of Branches (1)

(8/50)

Q2 B1

(8/8)

Identify and fix the errors in each of the following code blocks:

A)

```
if (score >= 60.0)  
    grade = 'D';  
else if (score >= 70.0)  
    grade = 'C';  
else if (score >= 80.0)  
    grade = 'B';  
else if (score >= 90.0)  
    grade = 'A';  
else  
    grade = 'F';
```

B)

```
public class Test {  
    public void main(String[] args) {  
        for (int i = 0; i < 10; i++);  
            sum += i;  
  
        if (i < j);  
            System.out.println(i)  
        else  
            System.out.println(j);  
  
        while (j < 10);  
        {  
            j++;  
        };  
  
        do {  
            j++;  
        } while (j < 10)  
    }  
}
```

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C)

```
public class Test {  
    public static method1(int n, m) {  
        n += m;  
        method2(3.4);  
    }  
  
    public static int method2(int n) {  
        if (n > 0) return 1;  
        else if (n == 0) return 0;  
        else if (n < 0) return -1;  
    }  
}
```

Third Question

No. of Branches (2)

(14/50)

Q3 B1

(12/14)

What is the output of each of the following block of code?

A)

```
// Suppose the input is 2 3 4 5 0.  
import java.util.Scanner;  
public class Test {  
    public static void main(String[] args) {  
        Scanner input = new Scanner(System.in);  
        int number, sum = 0, count;  
        for (count = 0; count < 5; count++) {  
            number = input.nextInt();  
            sum += number;  
        }  
        System.out.println("sum is " + sum);  
        System.out.println("count is " + count);  
    }  
}
```

Output

B)

```
public class Test {  
    /** Main method */  
    public static void main(String[] args) {  
        int i = 0;  
        while (i < 5) {  
            for (int j = i; j > 1; j--)  
                System.out.print(j + " ");  
            System.out.println("*****");  
            i++;  
        }  
    }  
}
```

Output

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C)

```
public class Test {  
    public static void main(String[] args) {  
        int i = 1;  
        while (i <= 6) {  
            method1(i, 2);  
            i++;  
        }  
    }  
    public static void method1(int i, int num) {  
        for (int j = 1; j <= i; j++) {  
            System.out.print(num + " ");  
            num *= 2;  
        }  
        System.out.println();  
    }  
}
```

Output

D)

```
public class Test {  
    public static void main(String[] args) {  
        int[] list = {1, 2, 3, 4, 5};  
        reverse(list);  
        for (int i = 0; i < list.length; i++)  
            System.out.print(list[i] + " ");  
    }  
    public static void reverse(int[] list) {  
        int[] newList = new int[list.length];  
        for (int i = 0; i < list.length; i++)  
            newList[i] = list[list.length - 1 - i];  
        list = newList;  
    }  
}
```

Output

Q3 B2

(2/14)

Convert the following while loop into a for loop.

```
int i = 1;  
int sum = 0;  
while (sum < 10000) {  
    sum = sum + i;  
    i++;  
}
```

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Fourth Question

No. of Branches (3)

(20/50)

Q4 B1

(5/20)

Write a nested loop that prints the following pattern:

```
1 .....
2 1 .....
3 2 1 .....
4 3 2 1 .....
5 4 3 2 1 .....
6 5 4 3 2 1 .....
```

Q4 B2

(7/20)

Write a program that reads a number of scores and determines and prints how many scores are above or equal to the average and how many scores are below the average. Use an array to store scores. Enable the user to enter the number of scores.

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Using Dictionary (No)

[illegible]

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Using Dictionary (No)

[illegible]

Good Luck