

MIS 316-Fundamental of Programming I

Midterm Exam

June 21th, 2020

Dr. Djamal Ziani

Exam charter

- This exam contains **14 questions**
- The duration of the quiz is **120 minutes**.
- During the exam, an absolute silence is required. All kinds of communication with the other students are strictly forbidden.
- In multiple answers question, if you choose for example 2 right answers among you will get 1 mark among 3 (2 correct answers – 1 bad answer).
- In multiple answers question, if you choose more than the maximum answers options, your answer will be invalidated.

Student identification

Name: Alanoud alhammadi.....

ID: 201612104.....

Sequence Number:

Signature:

- By signing this form, the student recognizes that he/she understands and accepts the rules mentioned in the quiz charter. He/she recognizes also that if he/she does not respect these rules, the professor will take the appropriate measures including exclusion from the quiz -

Q1: (CO2) How you write in Java the array myNumber of 3 int containing: 30, 40, 50? (1 answer, 1 mark)

- A. ☐ `int[] myNumber = {"30", "40", "50"};`
- B. ☐ `int myNumber = {"30", "40", "50"};`
- C. ☐ `int myNumber = {30, 40, 50};`
- D. ☒ `int[] myNumber = {30, 40, 50};`

Q2: (CO2) If you have an array of 14 items, what will be the index of the first and last index of your array? (1 answer, 1 mark)

- A. ☐ First index=1, Last Index=14
- B. ☐ First index=1, Last Index=13
- E. ☒ First index=0, Last Index=13
- C. ☐ First index=0, Last Index=14

Q3: (CO2) How you write in Java the array Names of 3 String containing the names: Ali, Saoud, Nacer? (1 answer, 1 mark)

- F. ☒ `String[] Names = { "Ali", "Saoud", "Nacer "};`
- A. ☐ `String Names = {"Ali", "Saoud", "Nacer"};`
- B. ☐ `String Names = {Ali, Saoud, Nacer};`
- C. ☐ `String[] Names = {Ali, Saoud, Nacer};`

Q4: (CO2) Give the result of this statements and what the value of x. (1 mark)

`int x=23;`

`System.out.println("Result = " + x--);`

Result = 23

Q5: (CO2) This code display 20.0, why? (1 mark)

```
int y=20;  
System.out.println((float)y);
```

Because casting in (float)y

Q6: (CO2) Why this code display 36.0? (1 mark)

```
double w=36.5;  
int number = (int)w;  
System.out.println((float)number);
```

number = 36

Because casting in (float)number

The output will be 36.0

Q7: (CO2) What the exact java concept we are using, (Explain why you think about this concept? (1 mark)

```
short myShort =5;  
int myInt = myShort;
```

The used concept is casting

There are tow type of casting (Automatic , explicit)

Here we use Automatic casting because the destination type is larger than the source type.

Q8: (CO3) When the expression **in red color**, is executed? (1 answer, 1 mark)

```
for (int x=5; x>0; x--) {  
    System.out.println(x);  
}
```

- A. ☐ After exit the For loop
- B. ☐ Before entering the For loop
- C. ☐ Just after verifying the For loop condition (x>0)
- D. ☒ After executing the For body loop

Q9: (CO3) What the result of this code and why when we enter the following in the console.

Mohamed Ali myEmail@gmail.com (2 marks)

```
Scanner console = new Scanner(System.in);  
String name = console.next();  
String email = console.next();  
System.out.println("name: " + name);  
System.out.println("email: " + email);
```

Of course with adding this to the class: **import java.util.Scanner;**

The variable name will take the first token (Mohamed)

The variable email will take the second token Ali

The output will be:

name: Mohamed

email: Ali

Q10: (CO3) What the result of this code and why when we enter the following in the console. **18 20 Mohammed** (2 marks)

```
Scanner console = new Scanner(System.in);
int mark1 = console.nextInt();
int mark2 = console.nextInt();
String name = console.nextInt();
System.out.println("name: " + name);
System.out.println("mark1: " + mark1);
System.out.println("mark2: " + mark2);
```

Of course with adding this to the class: `import java.util.Scanner;`

The result is error because we use a variable name of type String with the method nextInt();

Q11: (CO3) Give the tracing of the following program (2 marks)

```
int mynumber=3;
while (mynumber>=0) {
    if (mynumber % 2 != 0)
        System.out.println(mynumber + " is odd");
    else
        System.out.println(mynumber + " is even");

    mynumber--;
}
```

mynumber	mynumber>=0	mynumber%2 !=0	Output
3	T	T	3 is odd
2	T	F	2 is even
1	T	T	1 is odd
0	T	F	0 is even
-1	F		

Q12: (CO3) Give the tracing of the following program (2 marks)

```
String[] myMsg = new String[4];
for(int i=0; i<4; i++){
    if (i%2==0)
        myMsg[i] = "*****";
    else
        myMsg[i] = " **";

    System.out.println(myMsg[i]);
}
```

i	i<4	i%2=0	myMsg[i]
0	t	t	*****
1	t	f	**
2	t	t	*****
3	t	f	**
4	f		

Out put :

**

**

Q13: (CO3) Give the tracing of the following program (2 marks)

```
int[] numbers = {45,30,50,20};
int v = numbers[0];
for (int i=1; i<numbers.length; i++) {
    if (numbers[i]>v)
        v = numbers[i];
}
System.out.println("v= " + v);
```

i	i<numbers.length	numbers[i]>v	v
1	T	F	45
2	T	T	50
3	T	F	50
4	F		

v= 50

Q14: (CO3) Give the tracing of the following program (2 marks)

```
int[] numbers = {4,-3,1,-2};
int calc=1;
for (int i=0; i<numbers.length; i++) {
    if (numbers[i]<0)
        numbers[i] = numbers[i] *-1;
    calc = calc * 2*numbers[i];
}
System.out.println("calc = "+ calc);
```

i	i<numbers.length	numbers[i]<v	numbers[i]	calc
0	t	f	4	8
1	t	t	3	48
2	t	f	1	96
3	T	t	2	384
4	f			

The output:
calc = : 384

Good Luck!