# Final 42 – First Semester (Females)

## True or false

1- String variable cannot have length equals 0 (..) //it will be the same answer if they ask about array instead of String

2- Default constructors and explicitly defined constructors cannot return values (..)


**the following cause no errors:**

float fnum; double dnum; String str = "457.819"; int x;

3- fnum = input.nextFloat(); if input = 0.22 (..)

4- dnum = Double.parseDouble(str);  (..)

5- x = Integer.parseInt(str.substring(4));  (..)



**Assume you have these overloaded methods**

a. public void M1 (double [] arr) {.......}

b. public int M1 (int a , int b, double c){.....}

c. public void M1  ( int a , double b, double c) {....}

d. public int M1 (int a , int b, int c) {.....}

6- if we call System.out.print( M1(4, 5 , 4.6)); it will match with version b (..)

7- if we call M1( 4.6 , 6.3 , 5.0); it will cause an error (..)

8- if we call M1({2.8 , 8.3 , 7.0}); it will go to the version a (..)

9- can we overload this method: public void M1( int x , int y, int z) . Assume its related to previous overloaded methods(..)

10- any if statement can be convert to an equivalent statement using the conditional operator (..)

11- static methods can be Invoked using the class name, not an object name (..)

**Multiple choice**

**1-what is the output ?**

String str = "CSC111#JAVA#Final";

String word = "Start";

System.out.print (str.substring(6 , 11).replace("#", word))

    a. StartJAVA
    b. startJavastart
    c. #Java#
    d. Compilation error

**2-Which of the following is true about this code ?**

  int [] X = {1 , 3 , 5 , 7};

  int [] Y = X;

    a. Y has the same elements as X
    b. X and Y point to the same memory location
    c. Both A and B
    d. None of the above

**3-What is the output**

 int n = 8, d =2;

System.out.println(n/d >3 ?"Alpha":"Beta");

a. Alpha

b. Beta

c. 4

d. Compilation error

//more questions goes on….

**//Tracing (LONG  tracing)**

**//Correct errors**

**\*this is NOT the full code**

```java
Import java.util.Scanner;


public class P2 {

public static void main (String [] args)

double x = read.nextDouble();

double y = read.nextDouble();

switch (y) {

case1:

case2:

case3 : System.out.println (Method (1 ,2)); } // there was non- static method returns double

}}
```

## Complete the program

**1 - Draw flowchart for this problem**

Assume user enters amount money of Riyals, convert to dollars with d = R / 3.75 , then print "not satisfied" if d < 300$, otherwise print "satisfied" .

**2- Write a <u>method's header</u> that receives array of type double and array of type integer, then returns a String**

**3- Assume you have String variable** letter **print the third letter if it is digit, otherwise print '#'**

**4- write a method that receives an array of type String, and returns true if the element in the beginning is the same of the end, otherwise will be false. Assume the size of the array is even**

   **ex:**

| Hello | Good | Day | Day | Good | Hello |
|-------|------|-----|-----|------|-------|

 returns true

| Hello | Good | Day | Good | Hello | Day |
|-------|------|-----|------|-------|-----|

returns false

**Write Complete Program**

**//IMPORTANT:** we don't remember the whole question text, but we give you the important things

if the member wants to upgrade they will be in the next level, for example "Basic" member goes to "Silver" with upgrade. upgrade cost 50SR for each remaining month

| Membership | cost | Class can take | Can be upgrade ? |
|---|---|---|---|
| Basic | 200SR | 2 | Yes |
| Silver | 500SR | 5 | Yes |
| Gold | 700SR | 8 | No |

| Membership |
|---|
| -name : String |
| -expDay : int |
| -expMonth : int |
| -type : String |
| -Classes : String [] |
| -numOfC : int |
| -maxC : int |
| +Membership (String n , int d, int m, String t) |
| +addClass (): void |
| +checkValidity (int d , int m): Boolean |
| +upgrade (int d , int m): double |

# Attributes :

**name**: name of member

**expDay**: expiration day , days range (1-30).

**expMonth:** expiration month, months range (1-12).

**type:** type of membership (Basic/Silver/Gold).

**numOfC:** number of classes the member picked so far .

**maxC:** maximum number of classes the member can pick.

# Methods:

**Membership:** initialize the values as needed, if the type is empty String or invalid type assign *Basic* membership, if the expiration day or month is not valid then assign the maximum .

**addClass:**  let the member add a class (assume it is one word) to classes array if possible, if it is not possible print "Sorry, limit reached".

**checkValidity:** this method receive the current day and month, if the membership is valid return true, otherwise return false. (assume day and month is in the same year)

**upgrade:** if the membership is expired and if it can not be upgraded then return -1, otherwise upgrade the membership and calculate and print the amount of money to pay (50 riyals for every remaining month). Change attributes as needed.

**public class Membership {**

**//Constructor**

```java
    public void addClass () {



    }

    public boolean checkValidity (int d , int m) {



    }

    public double upgrade (int d , int m) {



    }

} //End Membership class
```

**In the class TestMembership with main method**

**1-create** memArr **that can hold 90 members, choose appropriate type of variable , and variable** numMem **holds the number of members in the club**

**Assume we have members added ……..**

**2- Create an object with this information**

| Name | Day | Month | Type |
|------|-----|-------|------|
| Heidi | 12 | 2 | Silver |

**3- Write a variable** oneMem **of an appropriate type that saves the second member in the club**

**4- Upgrade** oneMem **membership if expired day is 15 and expired month is 6**

**5- Check the validity of memberships at day 6 and month 4**

**//more questions goes on…..**