



United International University (UIU)
Dept. of Computer Science and Engineering (CSE)

MID TERM EXAM :: FALL 2018

Course Code: **CSI 211** Course Title: **Object-Oriented Programming**
Date: **22/11/18** Total Marks: **30** Time: **1 Hour 45 mins**

1. a) Write a Java program that will go through the items of an **array** and find the **min** value using **enhance for loop**. Take the following values as the initial values of the array {2, 3, 9, 8, 13, 1, 5, 19, 15} [2]

b) What is the difference between following two declarations in Java? [1]

i. `int c [], x`

ii. `int [] c, x`

c) Write a code fragment to create the following multidimensional integer array. [2]

0				
1	2			
3	4	5		
6	7	8	9	

2. a) Consider the following **MovieTheater** class. Now, write a **Movie** class in such a way that **MovieTheater** class will give expected output as shown below. [3]

Code	Output
<pre>public class MovieTheater { public static void main(String[] args) { Movie m_Debi = new Movie("Debi", 2018, "1hr 30min"); Movie m_Venom = new Movie ("Venom", 2018, "1hr"); m_Debi.play(); m_Venom.play(); Movie.movieInfo(m_Debi); } }</pre>	<pre>Playing: Debi [2018] Playing: Venom [2018] Movie name: Debi, year: 2018, Duration: 1hr 30min</pre>

b) Find out if the following JAVA programs have **any error**. **Fix the code and rewrite**. You cannot delete any line of code. However, you are allowed to **edit or add** any code as per requirement. [2]

<pre>public class Simple { static int a=5; int b=6; private int #x=5; private int data=100; static void sum(){ System.out.println(a+b); } }</pre>	<pre>public class Test { public static void main(String[] args) { Simple s=new Simple(); Simple.sum(); System.out.println(s.data); } }</pre>
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3. a) Write a class **Grader** which has three attributes: **name**, **id** and **payPerAssignment**. The constructor of Grader class initializes **name**, **id** and **payPerAssignment** with **this reference** keyword. There is one method named **void printEarnings()** which **prints** the earning of grader by multiplying the number of graded assignments with per-assignment-pay. To do so, you should include **one private instance** variables in Grader class definition: **count**. Use getter and setter methods in the class to set and get the values of the field. [4]

b) What is the difference between static binding and dynamic binding? [1]

4 a) Fix the following code and rewrite the correct one. [4]

<pre>class A{ private int ai; public A(int ai){ this.ai = ai; } void set(){ this.ai = 0; } void set(int ai){ this.ai = ai; } }</pre>	<pre>class B extends A{ private int bi; public B(){ } public B(int bi){ this(0, bi); } void set(){ ai = 0; bi = 0; } void set(intai, int bi){ this.ai = ai; this.bi = ai; } }</pre>
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b) Write the output of the following code. [1]

<pre>public class Parent { Parent() { System.out.println("Parent Class"); } }</pre>	<pre>public class Child extends Parent{ Child() { System.out.println("Child Class"); } public static void main(String[] args) { Child c=new Child(); } }</pre>
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5. Suppose you are hired by a company to make them a java program that calculates each employee's monthly salary. You decided to write an **abstract class** named **Employee** which has **name** and **age** as member variables and **calculateMonthlySalary()** as **abstract** member function. There are two other concrete classes named **DailySalariedEmployee** and **HourlySalariedEmployee**. Both of these classes are subclass of Employee class. DailySalariedEmployee has a member variable **dailySalary** and HourlySalariedEmployee has a member variable **hourlySalary**. [5]

Now, write each of the classes (Employee, DailySalariedEmployee, HourlySalariedEmployee). You should write appropriate constructors that initialize the member variables. There are 22 working days and 176 working hours in a month.

6. a) Write the output of the given code.

[3]

```
public class Wizard {
    String name;
    Wizard(String n)
    {
        name=n;
    }
}
```

```
public class Application {
    public static void main(String[] args) {
        Wizard w1=new Wizard("Hagrid");
        Wizard w2=new Wizard("Sirius");
        Wizard w3=new Wizard("Harry");

        w1=w2;
        w2=w3;
        w3=w1;

        System.out.println(w1.name);
        System.out.println(w2.name);
        System.out.println(w3.name);
    }
}
```

b) Write the output of the given code.

[2]

```
public class Example {
    static int a=5;
    int b=10;
}
```

```
public class FindOutput {
    public static void main(String[] args) {
        Example e1=new Example();
        Example e2=new Example();

        e1.a=10;
        e1.b=30;

        System.out.println(e2.a);
        System.out.println(e2.b);
        System.out.println("Sum: "+2+3);
        System.out.println('a'+2);
    }
}
```