Course Code	: CAP904
Course Title	: Fundaments of Java
Course Instructor	: Monika Yadav
Section	: **DE121 (Group 2)**
Academic Task No	: Assignment
Academic Task Title	: Lab Evaluation Assignment
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Java Basics

Declaration:

I declare that this Assignment is my individual work. I have not copied it from any other students' work or from any other source except where due acknowledgement is made explicitly in the text, nor has any part been written for me by any other person.

Student Signature :.....

Evaluator's comments (For Instructor's use only):

……

……

Evaluator's Signature and Date :……..……..

Mark Obtained :…….. Max. Mark :……50…..

```
//Q1. Write a program to implement function overriding
/*If subclass (child class) has the same function as declared in the parent class, it is known as function overriding in Java*/

class Parent1{
	void printThis() //print function definition
	{
		System.out.println("Parent1 is accessed");
	}
}//end class ChildClass1

class Child1 extends Parent1{
	void printThis() //print function definition
	{
		System.out.println("Child1 is accessed\n");
	}
}//end class ChildClass1

class Child2 extends Parent1{
	void printThis() //print function definition
	{
		System.out.println("Child2 is accessed\n");
		//use super keyword to invoke function from parent class
		super.printThis();
	}
}//end class ChildClass1

class Question1{
	public static void main(String args[])
	{
	//creat objects
	Child1 obj1 = new Child1();
	Child2 obj2 = new Child2();

	//call object-methods
	obj1.printThis();
	obj2.printThis();

	}//end main
}//end class Question1
```

```
Microsoft Windows [Version 10.0.18362.778]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>javac Question1.java

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>java Question1
Child1 is accessed

Child2 is accessed

Parent1 is accessed

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```

/*Create a class named 'Member' having the following members:
Data members
1 - Name
2 - Age
3 - Phone number
4 - Address
5 - Salary
It also has a method named 'printSalary' which prints the salary of the members.
Two classes 'Employee' and 'Manager' inherits the 'Member' class. The 'Employee' and 'Manager' classes have data members 'specialization' and 'department' respectively. Now, assign name, age, phone number, address and salary to an employee and a manager by making an object of both of these classes and print the same.*/

```
class Member{
        String name;
        int age;
        long phoneNo;
        String address;
        int salary;

        void printSalary(){
                System.out.println("Salary is : " + salary);
        }//end printSalary

        void setMember(String name, int age, long phoneNo, String address, int salary){
                this.name = name;
                this.age = age;
                this.phoneNo = phoneNo;
                this.address = address;
                this.salary = salary;
        }//end setMember

        void getMember(){
                System.out.println("\nName : " + name);
                System.out.println("Age : " + age);
                System.out.println("Phone No : " + phoneNo);
                System.out.println("Address : " + address);
                System.out.println("Salary : " + salary);
        }//end getMember

}//end Member

class Employee extends Member{
        String specialization;
}//end Employee

class Manager extends Member{
        String department;
}//end Employee

class Question2{
public static void main(String args[])
{
System.out.println("\nAccessing Employee class: ");
Employee emp1 = new Employee();
```

```
emp1.specialization = "Tactical Glock 34";
emp1.setMember("John Wick", 35, 112341243, "Delhi", 35000);
emp1.getMember();

System.out.println("\n\nAccessing Manager class: ");
Manager mng1 = new Manager();
mng1.department = "M60";
mng1.setMember("Rambo", 42, 172345432, "Mumbai", 76000);
mng1.getMember();

System.out.println("\nCalling printSalary methods: ");
emp1.printSalary();
mng1.printSalary();

}//end main
}//end class Question2
```

```
C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>javac Question2.java

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>java Question2

Accessing Employee class:

Name : John Wick
Age : 35
Phone No : 112341243
Address : Delhi
Salary : 35000


Accessing Manager class:

Name : Rambo
Age : 42
Phone No : 172345432
Address : Mumbai
Salary : 76000

Calling printSalary methods:
Salary is : 35000
Salary is : 76000

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```

```
//3. Write a program to create array of objects of class Circle and print areas of ten circle objects.

import java.lang.Math.*;

class Circle{
	double radius;
	double area;

	Circle(double r){
		radius = r;
		area = radius * radius * Math.PI ;
	}

	void getArea(){
		System.out.println("\tarea: " + area);
	}
```

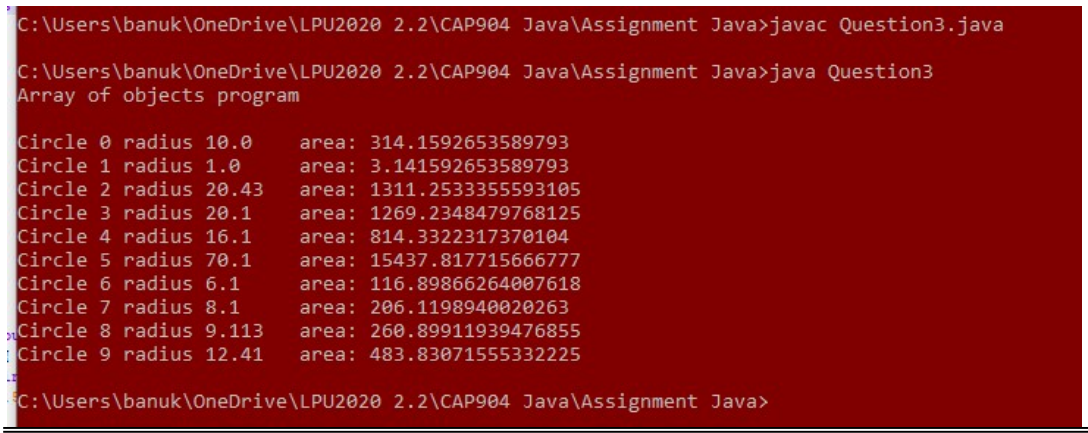
```
}//end class Circle

class Question3{
	public static void main(String args[])
	{
		System.out.println("Array of objects program\n");

	Circle obj[] = new Circle[10];
	obj[0] = new Circle(10);
	obj[1] = new Circle(1);
	obj[2] = new Circle(20.43);
	obj[3] = new Circle(20.1);
	obj[4] = new Circle(16.1);
	obj[5] = new Circle(70.1);
	obj[6] = new Circle(6.1);
	obj[7] = new Circle(8.1);
	obj[8] = new Circle(9.113);
	obj[9] = new Circle(12.41);

	for(int i=0; i<10;i++){
		System.out.print("Circle " + i + " radius " + obj[i].radius);
		obj[i].getArea();
	}

	}//end main
}//end class Question3
```



```
C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>javac Question3.java

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>java Question3
Array of objects program

Circle 0 radius 10.0    area: 314.1592653589793
Circle 1 radius 1.0     area: 3.141592653589793
Circle 2 radius 20.43   area: 1311.2533355593105
Circle 3 radius 20.1    area: 1269.2348479768125
Circle 4 radius 16.1    area: 814.3322317370104
Circle 5 radius 70.1    area: 15437.817715666777
Circle 6 radius 6.1     area: 116.89866264007618
Circle 7 radius 8.1     area: 206.1198940020263
Circle 8 radius 9.113   area: 260.89911939476855
Circle 9 radius 12.41   area: 483.83071555332225

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```

//4. Create a program which takes user input of type String and then delete all the consonants from the string.

```
import java.util.Scanner;

class Question4{

	public static void main(String args[])
	{
	Scanner scan = new Scanner(System.in);
	System.out.println("Enter a string: ");

	String myString = scan.nextLine();
	//delete all constants and leave only vowels
```

```
        myString = myString.replaceAll("([^aeiouAEIOU])","");
        System.out.println("Output : " + myString);

        }//end main
}//end class Question4
```

```
C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>javac Question4.java

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>java Question4
Enter a string:
Lovely Professional University, India
Output : oeoeioaUieiIia

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```

//5. Create an array of twenty elements and then find the second largest element.

```
class Question5{
        static int findLargest(int arr[]){
                int temp = arr[0];
                for(int i=1;i<20;i++){
                        if (temp < arr[i]){ temp = arr[i]; }
                }
                return temp;
        }

        static int[] replaceLargest(int arr[], int item){
                for(int i=0;i<20;i++){
                        //replace largest item with MIN_integer
                        if (item == arr[i]){ arr[i] = Integer.MIN_VALUE; }
                }
                return arr;
        }

        public static void main(String args[])
        {
        int[] myArray = new int[]{23,43,1,99,21,87,43,65,99,88,22,76,54,12,54,76,28,43,75,50};
        for(int i=0;i<20;i++){
                System.out.print(myArray[i] + ", ");
        }

        //find largest item
        int largest = findLargest(myArray);
        //remove largest item from array-every occurence
        myArray = replaceLargest(myArray, largest);
        //find second-largest item
        int secondLargest = findLargest(myArray);

        System.out.println("\n\nSecond largest element : " + secondLargest);
        }//end main
}//end class Question5
```

```
C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>javac Question5.java

C:\Users\banuk\OneDrive\LPU2020 2.2\CAP904 Java\Assignment Java>java Question5
43, 1, 99, 21, 87, 43, 65, 99, 88, 22, 76, 54, 12, 54, 76, 28, 43, 75, 50,

Second largest element : 88

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```