

Java – Learn From Home

Assignment – Chapter 2

Concept: OOPs concepts and Implementation

Objective: At the end of the assignment, participants will be able to:

- Use constructors
- Concept of Inheritance
- GarbageCollection

Problems:

Exercise 1:

Create a class named Manager with instance variables empno, ename and salary and declare a constructor and a parameterized constructor. Create an object of Employee and pass the values to the constructor and create a method display() and call the method from the main using the employee object

Guided Solution:

Step 1: Create a class name Employee

```
class Employee {
```

Step 2: create instance variables

```
int empno; String ename; float salary;
```

Step 3: create constructor and parameterized constructor

```
public Employee() { }
```

```
public Employee(int empno,String ename,float salary){
```

```
    this.empno=empno;this.ename=ename;this.salary=salary;
```

```
}
```

Step 4: public void display(){

```
System.out.println("Empno: "+empno+"Ename : "+ename+"Salary : "+salary);
}
Step 5: public static void main(String[] a){
Employee e = new Employee(1,"Sucharitha",20000.00f);
e.display();
}
}
```

Exercise 2: Create a ContractEmployee class and make it extend the above class Employee and create a instance variable as String duration and override the display() and create object of Manager and call the display()

Guided Solution:

Step 1: Create a class name ContractEmployee and extend Employee

class ContractEmployee extends Employee{

Step 2: create a instance variable deptname and write a parameterized constructor

```
String duration;
Manager(int empno,String ename,float salary,String duration)
{
    super(empno,ename,salary);
    this.duration=duration;
}
```

Step 3: override the display()

```
public void display()
{
    super.display();
    System.out.println("Duration : "+duration);
}
```

```
Step 5: public static void main(String[] a){
    ContractEmployee m = new ContractEmployee(1,"Sucharitha",50000.00f, "3
years");
    m.display();
}
}
```

Exercise 3: Write a Java class Student with the attributes rollno,sname,course as instance variables and instituteName which should be defined as static variable. Create a parameterized constructor and initialize these variables and display instance variable and static variable in the display() and also display the static variable from the main()

Guided Solution:

Step 1: Create a class named Student

```
class Student{
```

Step 2: declare instance variables

```
int rollno;String sname;String course; static String instituteName="ABC";
```

Step 3: Create parameterized constructor and display the static variable from main() method

```
public Student(int rollNo,String sname,String course)
{
    this.rollNo=rollNo;this.sname=sname;this.course=course;

}
public void display(){
    System.out.println(rollNo+ " "+sname+" "+course+" "+instituteName);
}

public static void main(String[] a)
{
    System.out.println("Institute Name : "+instituteName);
}
}
```