Task 5: Object Oriented Programming

1. To Create Courier Class consist of Variables: courierID , senderName , senderAddress , receiverName , receiverAddress , weight , status, trackingNumber , deliveryDate ,userId

CODE:

```
package Entities;
import java.util.Date;
public class Courier {

//private variables to achieve encapsulation
   private int courierID;
   private String senderName;
   private String  senderAddress;
   private String receiverName;
   private String receiverAddress;
   private double weight;
   private String status;
   private String trackingNumber;
   private Date deliveryDate;
   private static int trackingcount=1354784974;
//default Constructor
   public Courier()
   {}
//parameterized Constructor
   public Courier(int courierID, String senderName, String senderAddress,
                  String receiverName, String receiverAddress, double weight,
                  String status, String trackingNumber, Date deliveryDate) {
      this.courierID = courierID;
      this.senderName = senderName;
      this.senderAddress = senderAddress;
      this.receiverName = receiverName;
      this.receiverAddress = receiverAddress;
      this.weight = weight;
      this.status = status;
      this.deliveryDate = deliveryDate;

      trackingcount++;
      this.trackingNumber="TN"+trackingcount;
   }
```

```
//getters and setters method
    public int getCourierID() {
        return courierID;
    }

    public void setCourierID(int courierID) {
        this.courierID = courierID;
    }

    public String getSenderName() {
        return senderName;
    }

    public void setSenderName(String senderName) {
        this.senderName = senderName;
    }

    public String getSenderAddress() {
        return senderAddress;
    }

    public void setSenderAddress(String senderAddress) {
        this.senderAddress = senderAddress;
    }

    public String getReceiverName() {
        return receiverName;
    }

    public void setReceiverName(String receiverName) {
        this.receiverName = receiverName;
    }

    public String getReceiverAddress() {
        return receiverAddress;
    }

    public void setReceiverAddress(String receiverAddress) {
        this.receiverAddress = receiverAddress;
    }
```

```
    public double getWeight() {
        return weight;
    }
    public void setWeight(double weight) {
        this.weight = weight;
    }
    public String getStatus() {
        return status;
    }
    public void setStatus(String status) {
        this.status = status;
    }

    public String getTrackingNumber() {
        return trackingNumber;
    }

    public void setTrackingNumber(String trackingNumber) {
        this.trackingNumber = trackingNumber;
    }

    public Date getDeliveryDate() {
        return deliveryDate;
    }

    public void setDeliveryDate(Date deliveryDate) {
        this.deliveryDate = deliveryDate;
    }
//toString method
    @Override
    public String toString()
    {
        return courierID + ", " + senderName + ", " + senderAddress + ", " +
receiverName +
                ", " + receiverAddress + ", " + weight + ", " + status + ", " +
trackingNumber +
                ", " + deliveryDate;
```

```
  }
}
```

2.To Create User Class consist of Variables: userID , userName , email , password , contactNumber , address.

CODE:

```
package Entities;

public class User {
   private int userID;
   private String userName;
   private String email;
   private String password;
   private String contactNumber;
   private String address;
   public User()
   {}

   public User(int userID,String userName,String email,String password,String contactNumber,String address)
   {
      this.userID=userID;
      this.userName=userName;
      this.email=email;
      this.password=password;
      this.contactNumber=contactNumber;
      this.address=address;
   }

   public int getUserID() {
      return userID;
   }

   public void setUserID(int userID) {
      this.userID = userID;
   }

   public String getUserName() {
```

```
        return userName;
    }

    public void setUserName(String userName) {
        this.userName = userName;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getContactNumber() {
        return contactNumber;}

    public void setContactNumber(String contactNumber) {
        this.contactNumber = contactNumber;
    }

    public String getAddress() {
        return address; }

    public void setAddress(String address) {
        this.address = address; }

    public String toString()
    {
        return userID + ", " + userName + ", " + email + ", " + contactNumber + ",
" + address;
```

```
    }

}
```

3.To Create Employee Class consist of Variables: employeeID , employeeName , email , contactNumber , role String, salary

CODE:

```
package Entities;
public class Employee {
    private int employeeID;
    private String employeeName;
    private String email;
    private String contactNumber;
    private String role;
    private double salary;

    public Employee() {}


    public Employee(int employeeID, String employeeName, String email, String contactNumber, String role, double salary) {
        this.employeeID = employeeID;
        this.employeeName = employeeName;
        this.email = email;
        this.contactNumber = contactNumber;
        this.role = role;
        this.salary = salary;
    }
     public int getEmployeeID() {
        return employeeID;
    }

    public void setEmployeeID(int employeeID) {
        this.employeeID = employeeID;
    }

    public String getEmployeeName() {
        return employeeName;
    }
```

```
    public void setEmployeeName(String employeeName) {
        this.employeeName = employeeName;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getContactNumber() {
        return contactNumber;
    }

    public void setContactNumber(String contactNumber) {
        this.contactNumber = contactNumber;
    }

    public String getRole() {
        return role; }

    public void setRole(String role) {
        this.role = role;
    }
    public double getSalary() {
        return salary;
    }
    public void setSalary(double salary) {
        this.salary = salary;
    }
   @Override
    public String toString() {
        return employeeID + ", " + employeeName + ", " + email + ", " +
contactNumber + ", " + role + ", " + salary;
    }
}
```

4.To Create Location Class consist of Variables LocationID , LocationName , Address

CODE:

```
package Entities;
public class Location {

    private int locationID;
    private String locationName;
    private String address;

    public Location() {}
    public Location(int locationID, String locationName, String address) {
        this.locationID = locationID;
        this.locationName = locationName;
        this.address = address;
    }
    public int getLocationID() {
        return locationID;
    }
    public void setLocationID(int locationID) {
        this.locationID = locationID;
    }
    public String getLocationName() {
        return locationName;
    }
    public void setLocationName(String locationName) {
        this.locationName = locationName;
    }
    public String getAddress() {
        return address;
    }
    public void setAddress(String address) {
        this.address = address;
    }
    public String toString() {
        return locationID + ", " + locationName + ", " + address;
    }
}
```

5.To Create CourierCompany Class consist of Variables companyName , courierDetails -collection of Courier Objects, employeeDetails- collection of Employee Objects, locationDetails - collection of Location Objects

CODE:

```
package Entities;
import java.util.*;

public class CourierCompany {
   private String companyName;
   private List<Courier> courierDetails;
   private List<Employee> employeeDetails;
   private List<Location> locationDetails;
   private Courier[] couriers=new Courier[70];
   private int courierCount=0;

   public CourierCompany() {}

   public CourierCompany(String companyName, List<Courier> courierDetails,
List<Employee> employeeDetails, List<Location> locationDetails) {
      this.companyName = companyName;
      this.courierDetails = courierDetails;
      this.employeeDetails = employeeDetails;
      this.locationDetails = locationDetails;
   }

   public String getCompanyName() {
      return companyName;
   }

   public void setCompanyName(String companyName) {
      this.companyName = companyName;
   }

   public List<Courier> getCourierDetails() {
      return courierDetails;
   }

   public void setCourierDetails(List<Courier> courierDetails) {
      this.courierDetails = courierDetails; }
```

```
    public List<Employee> getEmployeeDetails() {
        return employeeDetails;
    }

    public void setEmployeeDetails(List<Employee> employeeDetails) {
        this.employeeDetails = employeeDetails;
    }

    public List<Location> getLocationDetails() {
        return locationDetails;
    }

    public void setLocationDetails(List<Location> locationDetails) {
        this.locationDetails = locationDetails;

    }
    public Courier[] getCouriers() {
        return couriers;
    }

    public void setCouriers(Courier[] couriers) {
        this.couriers = couriers;
    }

    @Override
    public String toString() {
        return companyName + ", Couriers: " + courierDetails.size() + ",
Employees: " + employeeDetails.size() + ", Locations: " +
locationDetails.size();
    }

    public int getCourierCount() {
        return courierCount;
    }

    public void setCourierCount(int courierCount) {
        this.courierCount = courierCount;
    }
}
```

6.To Create Payment Class consist of Variables PaymentID long, CourierID long, Amount double, PaymentDate Date

CODE:

```
package Entities;
import java.util.Date;
public class Payment {
    private int paymentID;
    private int courierID;
    private double amount;
    private Date paymentDate;

    public Payment() {}

    public Payment(int paymentID, int courierID, double amount, Date
paymentDate) {
        this.paymentID = paymentID;
        this.courierID = courierID;
        this.amount = amount;
        this.paymentDate = paymentDate;
    }

    public int getPaymentID() {
        return paymentID;
    }

    public void setPaymentID(int paymentID) {
        this.paymentID = paymentID;
    }

    public int getCourierID() {
        return courierID;
    }

    public void setCourierID(int courierID) {
        this.courierID = courierID;
    }

    public double getAmount() {
        return amount;
```

```
    }

    public void setAmount(double amount) {
        this.amount = amount;
    }

    public Date getPaymentDate() {
        return paymentDate;
    }

    public void setPaymentDate(Date paymentDate) {
        this.paymentDate = paymentDate;
    }

    @Override
    public String toString() {
        return paymentID + ", " + courierID + ", " + amount + ", " + paymentDate;
    }
}
```