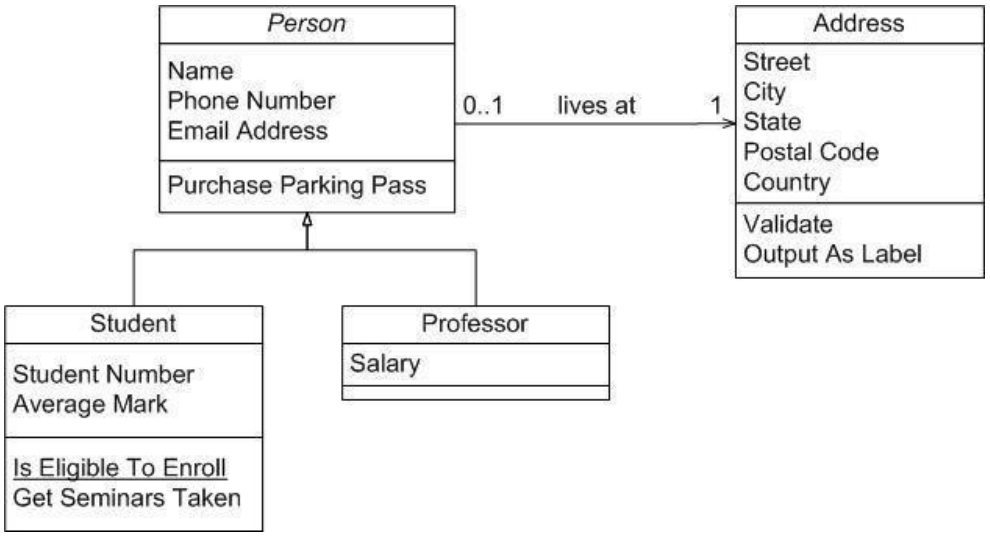
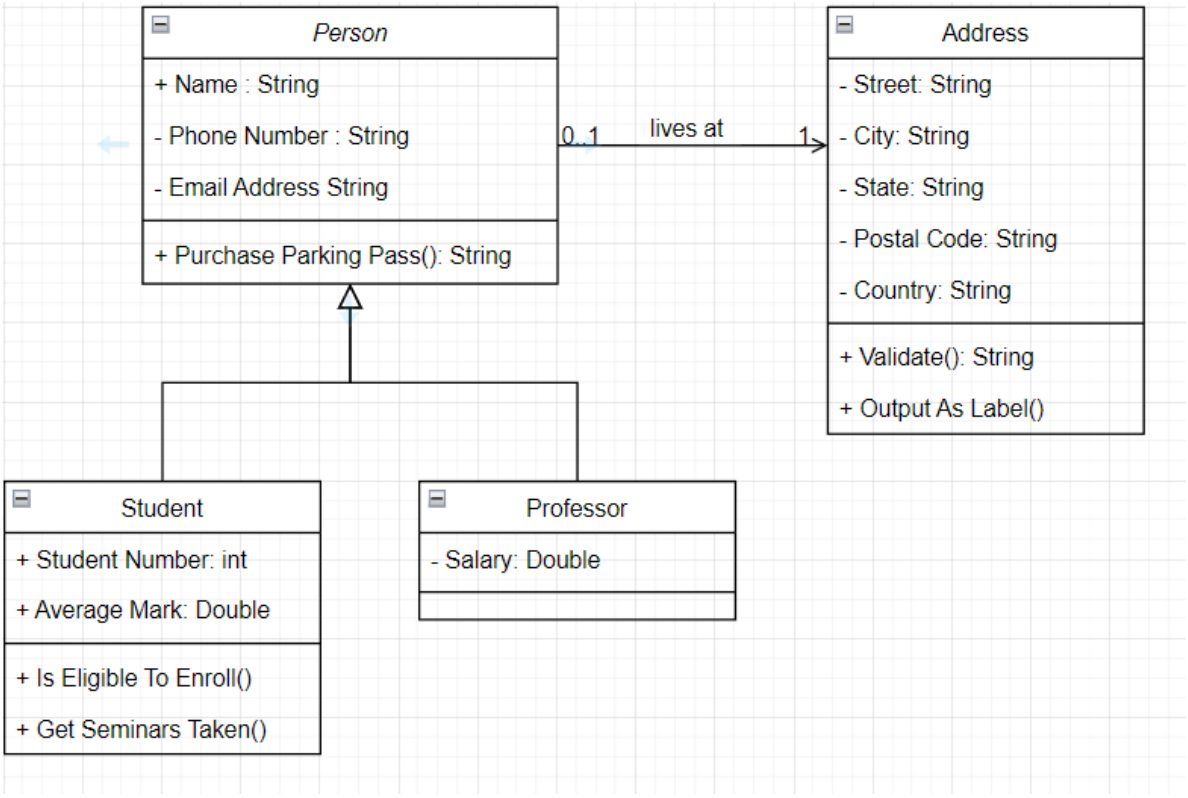
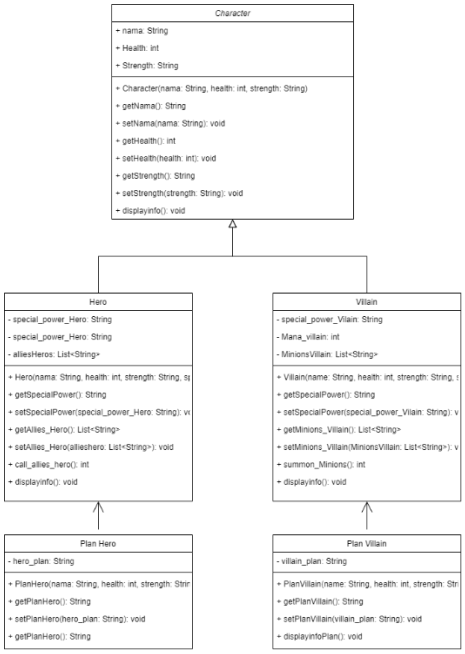
UTS QUESTIONS
OBJECT-BASED PROGRAMMING PRACTICUM

1. Identify the following diagram class, make complete improvements and in accordance with the rules for writing the diagram class.



- 

2. Create a diagram class that uses multilevel inheritance and create the program code!



hero.java > hero > displayinfo()

```java
public class hero extends character {
    public int Mana_Hero;
    //private String hero_plan;
    private List<String> alliesHeros;
    //private Weapon weapon;

    public hero (String nama, int health, String strength, String special_power_Hero, int Mana_Hero
        super(nama, health, strength);
        this.special_power_Hero = special_power_Hero;
        this.Mana_Hero = Mana_Hero;
        //this.hero_plan = hero_plan;
        this.alliesHeros = alliesHeros;
        //this.weapon = weapon;
    }

    /* public hero (String nama, int health, String strength, String special_power_Hero, int Mana_H
        super(nama, health, strength);
        this.special_power_Hero = special_power_Hero;
        this.Mana_Hero = Mana_Hero;
        this.hero_plan = hero_plan;
        //this.weapon = weapon;
    } */

    public String getSpecialPower(){
        return special_power_Hero;
    }
```

```java
public class villain extends character {
    public villain(String name, int health, String strength,String s
        super(name, health, strength);
        this.special_power_Vilain = special_power_Vilain;
        this.Mana_villain = Mana_villain;
        //this.evil_plan = evil_plan;
        this.MinionsVillain = MinionsVillain;
    }

    public String getSpecialPower(){
        return special_power_Vilain;
    }

    public void setSpecialPower(String special_power_Vilain){
        this.special_power_Vilain = special_power_Vilain;
    }

    public List<String> getMinions_Villain(){
        return MinionsVillain;
    }

    public void setMinnions_Villain(List<String>MinionsVillain){
        this.MinionsVillain = MinionsVillain;
    }

    public int summon_Minions(){
        if (this.Mana_villain > 50) {
```

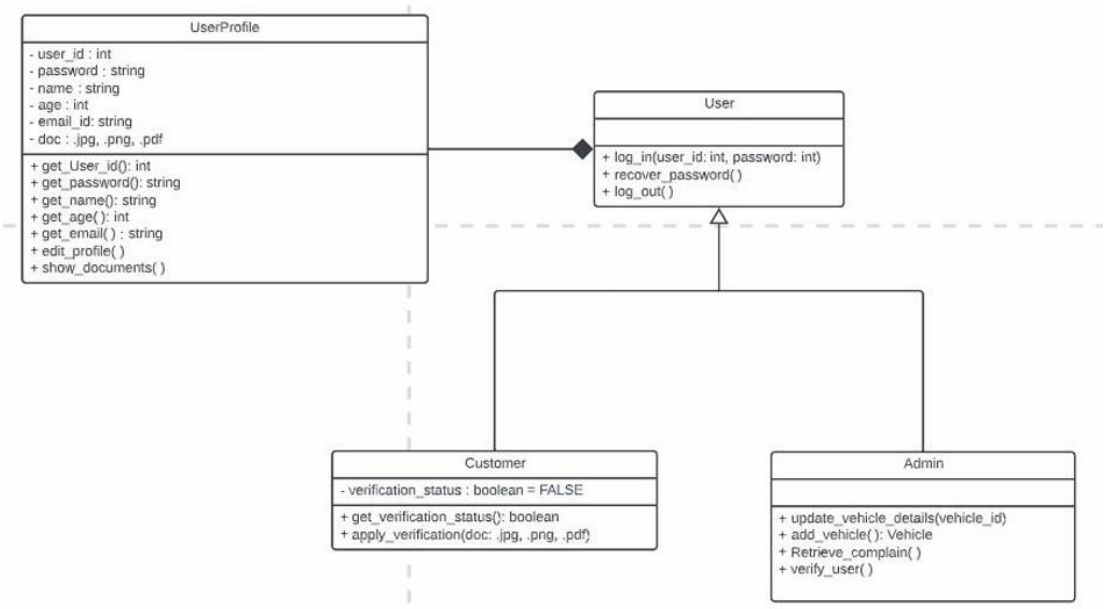
```java
public class character {
    public String nama;
    public int health;
    public String strength;

    public character (String nama, int health, String strength){
        this.nama = nama;
        this.health = health;
        this.strength = strength;
    }

    public String getNama(){
        return nama;
    }

    public void setNama(String nama){
        this.nama = nama;
    }

    public int getHealth(){
        return health;
    }

    public void setHealth(int health){
        this.health = health;
    }

```

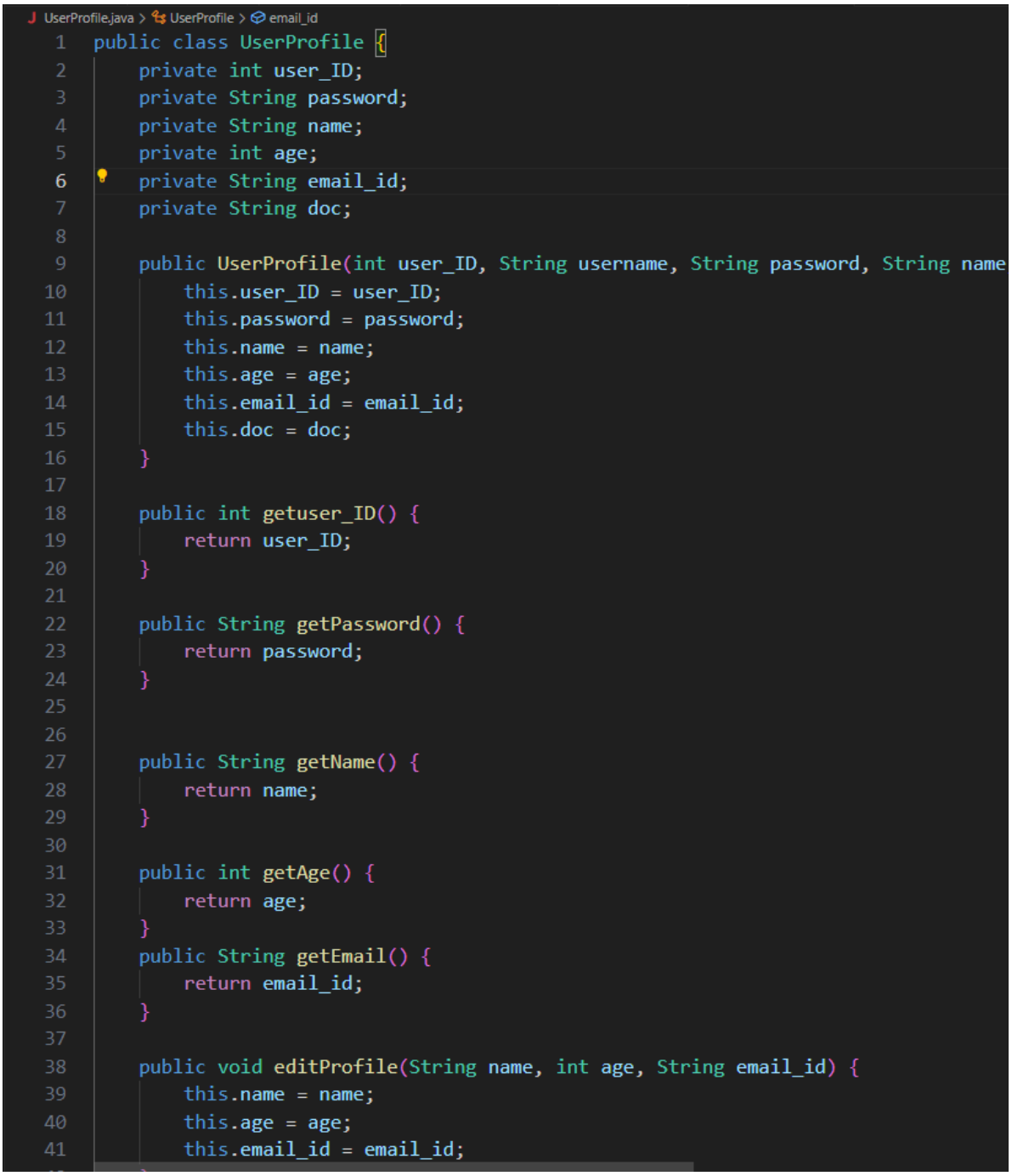
```java
public class MainCharacter {
    public static void main(String[] args) {

        // Membuat object Hero
        PlanHero planHero1 = new PlanHero(nama:"Plan Hero 1", health:150,
        planHero1.setPlanHero(hero_plan:"Memusnahkan Kejahatan dialam seme

        PlanHero planHero2 = new PlanHero(nama:"Plan Hero 2", health:200,
        planHero2.setPlanHero(hero_plan:"Mencegah Villain Memusnahkan Bumi

        // Membuat object Villain
        PlanVillain planVillain1 = new PlanVillain(name:"Plan Villain 1",
        planVillain1.setPlanvillain(villain_plan:"Menguasai Universe");

        PlanVillain PlanVillain2 = new PlanVillain(name:"Baskoro Aji", hea
        PlanVillain2.setPlanvillain(villain_plan:"Memusnahkan Makhluk Hidu

        // Menampilkan informasi karakter Hero
        System.out.println(x:"Character Hero: ");

       // hero1.displayinfo();
        planHero1.displayinfo(); // Menampilkan info PlanHero
        planHero2.displayinfo();

        System.out.println();

        // Menampilkan informasi karakter Villain
```

```java
public class PlanHero extends hero {

    private String hero_plan;

    public PlanHero (String nama, int health, String strength, String special_p
        super(nama, health, strength, special_power_Hero, Mana_Hero, alliesHero
    }

    public String getPlanHero(){
        return this.hero_plan;
    }

    public void setPlanHero(String hero_plan){
        this.hero_plan = hero_plan;
    }

    @Override
    public void displayinfo() {
        super.displayinfo();
        System.out.println("Hero Plan           : " + hero_plan);

    }
}
```

```java
public class PlanVillain extends villain {

    private String villain_plan;

    public PlanVillain(String name, int health, String strength,String specia
        super(name, health, strength, special_power_Vilain, Mana_villain, Min
    }

    public String getPlanvillain(){
        return this.villain_plan;
    }

    public void setPlanvillain(String villain_plan){
        this.villain_plan = villain_plan;
    }

    @Override
    public void displayinfo() {
        super.displayinfo();
        System.out.println("Villain Plan        : " + villain_plan);
    }
}
```

3. Please identify the class diagram by providing an explanation of the concept of inheritance, the relationship between classes and the following system flow, create a program code from the following class diagram!




UserProfile.java > UserProfile > email_id
public class UserProfile {
private int user_ID;
private String password;
private String name;
private int age;
private String email_id;
private String doc;
public UserProfile(int user_ID, String username, String password, String name
this.user_ID = user_ID;
this.password = password;
this.name = name;
this.age = age;
this.email_id = email_id;
this.doc = doc;
}
public int getuser_ID() {
return user_ID;
}
public String getPassword() {
return password;
}
public String getName() {
return name;
}
public int getAge() {
return age;
}
public String getEmail() {
return email_id;
}
public void editProfile(String name, int age, String email_id) {
this.name = name;
this.age = age;
this.email_id = email_id;

User.java > User > logIn(int, String)

```java
public class User extends UserProfile {

    public User(int user_ID, String username, String password, String name, int ag
        super(user_ID, username, password, name, age, email_Id, doc);
    }

    public String logIn(int user_ID, String password) {
        if (getuser_ID() == user_ID && getPassword().equals(password)) {
            return "Login successful";
        } else {
            return "Login failed";
        }
    }

    public void recoverPassword() {
       System.out.println(x:"Password recovery process initiated.");
    }

    public String logOut() {
        return "Logged out";
    }
}
```

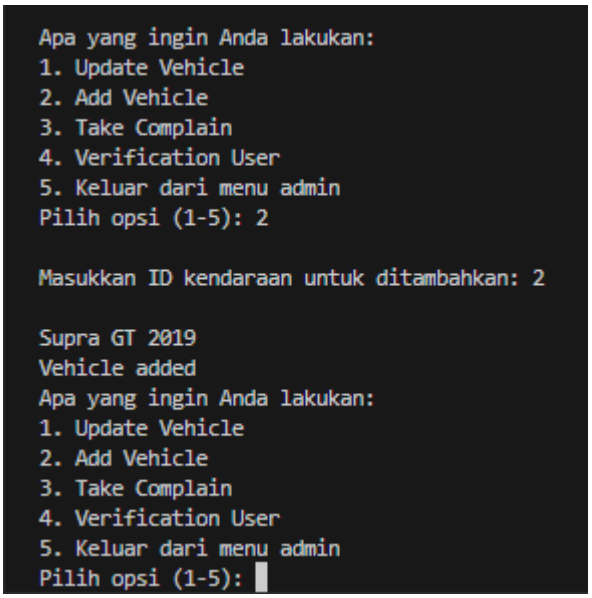
Customer.java > Customer > applyVerification(String)

```java
public class Customer extends User {
    private boolean verificationStatus = false;

    public Customer(int userId, String username, String password, String name, int
        super(userId, username, password, name, age, emailId, doc);
        this.verificationStatus = verificationStatus;
    }

    public boolean getVerificationStatus() {
        return verificationStatus;
    }

    public String applyVerification(String doc) {
        String[] verification = {".jpg", ".png", ".pdf"};
        int i = 0;
        boolean isValid = false;

        while (i < verification.length) {
            if (doc.endsWith(verification[i])) {
                isValid = true;
                break;
            }
            i++;
        }

        if (isValid) {
            verificationStatus = true;
            return "Dokumen verifikasi diajukan: " + doc + ". User terverifikasi."
        } else {
            return "Dokumen tidak valid: " + doc + ". Silakan ajukan document deng
        }
    }
}
```


Admin.java > Admin > Admin(int, String, String, String, int, String, String)
public class Admin extends User {
public Admin(int userId, String username, String password, String name, int ag
super(userId, username, password, name, age, emailId, doc);
}
public String updateVehicleDetails(int vehicleId) {
switch (vehicleId) {
case 1:
System.out.println(x:"Toyota Ayla 2010");
System.out.println(x:"Mesin Bagus");
System.out.println(x:"Ban Ori");
break;
case 2:
System.out.println(x:"Supra Gt 2010");
System.out.println(x:"Mesin Bagus");
System.out.println(x:"Ban Ori");
default:
break;
}
return "Vehicle details : " + vehicleId + " updated";
}
public void addVehicle(int vehicle_id) {
switch (vehicle_id) {
case 1:
System.out.println(x:"Toyota Ayla 2018");
break;
case 2:
System.out.println(x:"Supra GT 2019 ");
default:
break;
}
System.out.println(x:"Vehicle added");
}
public String retrieveComplaint() {
return "Complaint Diterima";
}

```java
import java.util.Scanner;

public class Main {
    Run | Debug
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Membuat objek Admin
        Admin admin = new Admin(userId:211, username:"admin", password:"admin", n

        // Membuat objek Customer
        Customer customer1 = new Customer(userId:455, username:"satriya", passwor
        Customer customer2 = new Customer(userId:456, username:"rizqi", password:

        // Menampilkan opsi kepada pengguna
        System.out.println(x:"=== Sistem ===");
        System.out.println(x:"1. Login sebagai Admin");
        System.out.println(x:"2. Login sebagai Customer");
        System.out.print(s:"Pilih opsi (1/2): ");
        int option = scanner.nextInt();
        System.out.println();

        if (option == 1) {
            // Login sebagai Admin
            System.out.print(s:"Masukkan username admin: ");
            int user_ID = scanner.nextInt();
            System.out.print(s:"Masukkan password admin: ");
            String password = scanner.next();
            boolean exitAdminMenu = false;

                if (user_ID == admin.getuser_ID() && password.equals(admin.getPas
                    System.out.println(x:"Login Admin Berhasil!");
                    // Menampilkan profil
                    System.out.println("Nama: " + admin.getName());
                    System.out.println("Usia: " + admin.getAge());
                    System.out.println("Email: " + admin.getEmail());

                    System.out.println();
                    while (!exitAdminMenu) {
                        System.out.println(x:"Apa yang ingin Anda lakukan:");
                        System.out.println(x:"1. Update Vehicle");
                        System.out.println(x:"2. Add Vehicle");
```

```
=== Sistem ===
1. Login sebagai Admin
2. Login sebagai Customer
Pilih opsi (1/2): 1

Masukkan username admin: 211
Masukkan password admin: admin
Login Admin Berhasil!
Nama: Bambang Mulyono
Usia: 30
Email: admin221@gmail.com

Apa yang ingin Anda lakukan:
1. Update Vehicle
2. Add Vehicle
3. Take Complain
4. Verification User
5. Keluar dari menu admin
Pilih opsi (1-5):
```


Apa yang ingin Anda lakukan:
1. Update Vehicle
2. Add Vehicle
3. Take Complain
4. Verification User
5. Keluar dari menu admin
Pilih opsi (1-5): 2
Masukkan ID kendaraan untuk ditambahkan: 2
Supra GT 2019
Vehicle added
Apa yang ingin Anda lakukan:
1. Update Vehicle
2. Add Vehicle
3. Take Complain
4. Verification User
5. Keluar dari menu admin
Pilih opsi (1-5):

---- Good Luck ----