1.An employee works in a particular department of an organization. Every employee has an employee number, name and draws a particular salary. Every department has a name and a head of department. The head of department is an employee. Every year a new head of department takes over. Also, every year an employee is given an annual salary enhancement. Identify and design the classes for the above description with suitable instance variables and methods. Use Concept of Method Overloading.

Code:

```
class Employee {
  int eid;
  String ename;
  float esalary;

  Employee(int id, String name, float salary) {
    eid = id;
    ename = name;
    esalary = salary;
  }
  Employee(int id, String name) {
    eid = id;
    ename = name;
    esalary = 30000;
  }

  void getDetails() {
    System.out.println("Employee ID: " + eid + "\nName: " + ename +
"\nSalary: " + esalary + "\n");
  }
  void annualIncrement(int percentage) {
    System.out.print("Employee Name: "+ename+"\nSalary Increment:
"+esalary+" -> ");
    esalary = esalary + (esalary * percentage/100);
    System.out.println(esalary + "\n");
  }
}

class Department {
  String dname;
  Employee dHOD;
  Department(String name, Employee HOD) {
    dname = name;
    dHOD = HOD;
  }

  void getHODDetails(){
    System.out.println("HOD Details:");
```

```
    dHOD.getDetails();
  }
  void HODSalaryIncrement(int percentage) {
    dHOD.annualIncrement(percentage);
  }
  void changeHOD(Employee newHOD) {
    dHOD = newHOD;
  }
}

public class Main {
  public static void main(String[] args) {
    Employee mrinmoyeeMaam = new Employee(1, "Ms. Mrinmoyee Mukherjee",
70000);
    Employee priyankaMaam = new Employee(2, "Ms. Priyanka Patil");
    Employee prachiMaam = new Employee(3, "Ms. Prachi Raut", 50000);

    mrinmoyeeMaam.getDetails();
    prachiMaam.getDetails();
    priyankaMaam.getDetails();
    priyankaMaam.annualIncrement(15);

    Department INFT = new Department("INFT", prachiMaam);
    INFT.getHODDetails();
    INFT.HODSalaryIncrement(20);

    INFT.changeHOD(mrinmoyeeMaam);
    INFT.getHODDetails();
  }
}
```

Output:

```
PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.1> javac
.\Main.java
PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.1> java Main
Employee ID: 1
Name: Ms. Mrinmoyee Mukherjee
Salary: 70000.0

Employee ID: 3
Name: Ms. Prachi Raut
Salary: 50000.0

Employee ID: 2
Name: Ms. Priyanka Patil
Salary: 30000.0

Employee Name: Ms. Priyanka Patil
Salary Increment: 30000.0 -> 34500.0

HOD Details:
Employee ID: 3
Name: Ms. Prachi Raut
Salary: 50000.0

Employee Name: Ms. Prachi Raut
Salary Increment: 50000.0 -> 60000.0

HOD Details:
Employee ID: 1
Name: Ms. Mrinmoyee Mukherjee
Salary: 70000.0

PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.1>
```

1.Write a code to implement following class diagram,each class will have id,name and address,make

Code:

```
class Person {
  String name;
  int age;

  Person(String name, int age) {
    this.name = name;
    this.age = age;
  }

  void getDetails() {
    System.out.println("Name: " + name + "\nAge: " + age);
    System.out.println("");
  }
}

class Teacher extends Person {
  int employeeID;
  int experience;

  Teacher(String name, int age, int employeeID, int experience) {
    super(name, age);
    this.employeeID = employeeID;
    this.experience = experience;
  }

  void getDetails() {
    super.getDetails();
    System.out.println("Employee ID: " + employeeID + "\nExperience: "
+ experience);
    System.out.println("");
  }
}

class HOD extends Teacher {
  String department;

  HOD(String name, int age, int employeeID, int experience, String
department) {
    super(name, age, employeeID, experience);
    this.department = department;
  }
```

```
  void getDetails() {
    super.getDetails();
    System.out.println("Department: " + department);
    System.out.println("");
  }
}

public class Main {
  public static void main(String[] args) {
    Teacher priyankaMaam = new Teacher("Ms. Priyanka Patil", 25, 123,
3);
    priyankaMaam.getDetails();

    HOD prachiMaam = new HOD("Ms.Prachi Raut", 45, 100, 20, "INFT");
    prachiMaam.getDetails();
  }
}
```

Output:

```
PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.2> javac
.\Main.java
PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.2> java Main
Name: Ms. Priyanka Patil
Age: 25

Employee ID: 123
Experience: 3

Name: Ms.Prachi Raut
Age: 45

Employee ID: 100
Experience: 20

Department: INFT

PS C:\Users\Ajay kumar\Desktop\SEIT-B\Java Practical\6\Q.2>
```