Question :

Write a java program to create an abstract class BankAccount with abstract methods **deposit()** and **withdraw()**. Create subclasses: SavingAccount and CurrentAccount that extend the BankAccount class and implement the respective methods to handle deposits and withdrawals for each account type.

Code :

```
// abstract class bank account
abstract class BankAccount {
   abstract void deposit(long money);
   abstract void withdraw(long amount);
}
class SavingsAccount extends BankAccount {
   public String name ="";
   long savings = 0;
   void deposit(long money) {
       this.savings += money;
       System.out.println("After depositing "+money);
       System.out.println("Savings account balance is = "+this.savings);
   }
   void withdraw(long amount) {
       this.savings -= amount;
       System.out.println("After withdrawing "+amount);
       System.out.println("Savings account balance is = "+this.savings);
   }
   void display() {
       System.out.println("Name: "+this.name);
       System.out.println("Current account balance is = "+this.savings);
   }

}
class CurrentAccount extends BankAccount {
   long cash = 0;
   public String name ="";
   void deposit(long money) {
       this.cash += money;
       System.out.println("After depositing "+this.cash);
       System.out.println("Current account balance is = "+this.cash);
   }
   void withdraw(long amount) {
       this.cash -= amount;
```

```
        System.out.println("After withdrawing "+this.cash);
        System.out.println("Current account balance is = "+this.cash);
    }
    void display() {
        System.out.println("Name : "+this.name);
        System.out.println("Current account balance is = "+this.cash);
    }

}
public class assignment2{
    public static void main(String[] args) {
        CurrentAccount acc = new CurrentAccount();
        System.out.println("savings account : ");
        acc.name = "Taksmaster875";
        acc.deposit(100000000);
        acc.withdraw(200000);
        System.out.println();
        System.out.println("displaying the details of Savings Account");
        acc.display();
        System.out.println();
        SavingsAccount acc2 = new SavingsAccount();
        System.out.println("Current account transactions: ");
        acc2.name = "Wintersoldier875";
        acc2.deposit(200000000);
        acc2.withdraw(200000);
        System.out.println();
        System.out.println("displaying the details of Current account");
        acc2.display();


    }
}
```

Output-

```
savings account :
After depositing 100000000
Current account balance is = 100000000
After withdrawing 99800000
Current account balance is = 99800000

displaying the details of Savings Account
Name : Taksmaster875
Current account balance is = 99800000

Current account transactions :
After depositing 200000000
Savings account balance is = 200000000
After withdrawing 200000
Savings account balance is = 199800000

displaying the details of Current account
Name : Wintersoldier875
Current account balance is = 199800000
```

Question:

Write a Java program to create a class vehicle with a method called **speedUp()**. Create two subclasses Car and Bicycle. Override the speedUp() method in each subclass to increase the vehicle's speed differently.

Code-

```
// "static void main" must be defined in a public class.
class Vehicle {
   void speedUp(int Inc) {
        System.out.println("vehicle is unknown");
   }
}
class Car extends Vehicle {
   int speed = 0;
   void speedUp(int Inc) {
        System.out.println("The initial speed of car is "+this.speed+"
miles/h");
        System.out.println("After increasing the speed by "+Inc);
        this.speed += Inc;
        System.out.println("The car is now running @ speed "+this.speed+"
miles/h");
   }
}
```

```
class Bicycle extends Vehicle {
   int speed = 0;
   void speedUp(int Inc) {
       System.out.println("The initial speed of bicycle is "+this.speed+"
miles/h");
       System.out.println("After increasing the speed by "+Inc);
       this.speed += Inc;
       System.out.println("The bicycle is now running @ speed
"+this.speed+" miles/h");
   }
}
public class Main {
   public static void main(String[] args) {
       Car c = new Car();
       c.speedUp(10);
       Bicycle b = new Bicycle();
       b.speedUp(100);
   }
}
```

Output-

```
The initial speed of car is 0 miles/h
After increasing the speed by 10
The car is now running @ speed 10 miles/h
The initial speed of bicycle is 0 miles/h
After increasing the speed by 100
The bicycle is now running @ speed 100 miles/h
```