write a java program to create a base class vehicle with method start engine and stop engine create two subclasses car and motorcycle overwrite the start engine and stop engine methods in each subclasses to start and stop the engine differently

```
class Vehicle {
    void startEngine() {
        System.out.println("Vehicle engine started");
    }
    void stopEngine() {
        System.out.println("Vehicle engine stopped");
    }
}
class Car extends Vehicle {
    @Override
    void startEngine() {
        System.out.println("Car engine started with a roar");
    }
    @Override
    void stopEngine() {
        System.out.println("Car engine stopped with a screech");
    }
}
class Motorcycle extends Vehicle {
    @Override
    void startEngine() {
        System.out.println("Motorcycle engine started with a vroom");
    }
    @Override
    void stopEngine() {
        System.out.println("Motorcycle engine stopped with a sputter");
    }
}
public class Main {
    public static void main(String[] args) {
```

```
        Vehicle vehicle = new Vehicle();
        vehicle.startEngine();
        vehicle.stopEngine();
        Car car = new Car();
        car.startEngine();
        car.stopEngine();
        Motorcycle motorcycle = new Motorcycle();
        motorcycle.startEngine();
        motorcycle.stopEngine();
    }
}
```

Output

```
java -cp /tmp/xDUfUY1YSV/Main
Vehicle engine started
Vehicle engine stopped
Car engine started with a roar
Car engine stopped with a screech
Motorcycle engine started with a vroom
Motorcycle engine stopped with a sputter

=== Code Execution Successful ===
```

create program in java to create abstract class A also class B inherits classA generate object for class B and display the text"Call me from B"

```
abstract class A {
    abstract void display();
}
class B extends A {
    public void display() {
        System.out.println("Call me from B");
    }
```

```
}
public class Main {
    public static void main(String[] args) {
        B obj = new B();
        obj.display();
    }
}
```

```
Output

java -cp /tmp/imSZhPjZiH/Main
Call me from B

=== Code Execution Successful ===
```

write a java program for a number is less than 10 greater than 50 out of exception else it displays the square of number.(User input).

```
import java.util.Scanner;
public class NumberCheck {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = scanner.nextInt();
        try {
            if (number < 10 || number > 50) {
                throw new Exception("Number is less than 10 or greater than 50");
            } else {
                System.out.println("Square of the number: " + (number * number));
            }
        } catch (Exception e) {
            System.out.println(e.getMessage());
        }
    }
}
```

Output

```
java -cp /tmp/RycW2oxsV1/NumberChe
Enter a number: 34
Square of the number: 1156

=== Code Execution Successful ===
```