

Task 1

Write the **CSEStudent** and **CSE111Student** class so that the following code generates the output below [

<code>public class Student{</code>
<code> public String msg = "I love BU";</code>
<code> public String shout(){</code>
<code> return msg;</code>
<code> }</code>
<code>}</code>
<code>public class TestStudent{</code>
<code> public static void printShout(Student s){</code>
<code> System.out.println("-----");</code>
<code> System.out.println(s.msg);</code>
<code> System.out.println(s.shout());</code>
<code> }</code>
<code> public static void main(String [] args){</code>
<code> Student s = new Student();</code>
<code> CSEStudent cs = new CSEStudent();</code>
<code> CSE111Student cs111 = new CSE111Student();</code>
<code> System.out.println(s.msg);</code>
<code> System.out.println(cs.msg);</code>
<code> System.out.println(cs111.msg);</code>
<code> printShout(s);</code>
<code> printShout(cs);</code>
<code> printShout(cs111);</code>
<code> }</code>
<code>}</code>

Output
<pre> I love BU I want to transfer to CSE I love Java Programming ----- I love BU I love BU ----- I love BU I want to transfer to CSE ----- I love BU I love Java Programming </pre>

Task 2

Write the Car class so that the following code generates the output bellow

```

public class TestCars{

    public static void printCarDetail(Car c){

        System.out.println("Year: "+ c.getYear());

        System.out.println("Total Number of Cars: "+ c.getObjectCount());

    }

    public static void main(String [] args){

        System.out.println("Total Number of Cars: "+
Car.getObjectCount());

```

```

        System.out.println("=====");

        Car c1 = new Car(2000);

        printCarDetail(c1);

        Car c2 = new Car(2006);

        printCarDetail(c2);

        Car c3 = new Car(2002);

        printCarDetail(c3);

        System.out.println("=====");

        System.out.println("Total Number of Cars: "+
Car.getObjectCount());

    }

}

```

Total Number of Cars: 0

=====

Year: 2000

Total Number of Cars: 1

Year: 2006

Total Number of Cars: 2

Year: 2002

Total Number of Cars: 3

=====

Total Number of Cars: 3

Task 3

Given the following classes, write the code for the **Dog** and the **Cat** class so that the following output is printed when we run the **AnimalDriver** class.

```
Animal do not make sound
```

```
meow
```

```
bark
```

```
public class Animal {

    //Name of the Animal
    private String sound = "Animal Sound";

    //Default Constructor
    public Animal(){
    }

    //Overloaded Constructor
    Animal(String _sound){
        this.sound = _sound;
    }

    //Return sound
    public String makeSound(){
        return sound;
    }
}

public class AnimaDriver{
```

```
public static void printSound(Animal a){  
    System.out.println(a.makeSound());  
}  
  
public static void main(String [] args){  
    Dog d1 = new Dog("bark");  
    Cat c1 = new Cat("meow");  
    Animal a1 = new Animal("Animal do not make sound");  
    printSound(a1);  
    printSound(c1);  
    printSound(d1);  
}  
}
```