1. Write a code for singleton Design Pattern.

```
class Singleton {
    // Static variable single_instance of type Singleton
    private static Singleton single_instance = null;
     public String s;
    private Singleton()
    {
        s = "Hello I am a string part of Singleton class";
    }
       public static Singleton Singleton()
    {
        // To ensure only one instance is created
        if (single_instance == null) {
            single_instance = new Singleton();
        }
        return single_instance;
    }
}
 class GFG {
    public static void main(String args[])
    {
        // Instantiating Singleton class with variable x
        Singleton x = Singleton.Singleton();

        // Instantiating Singleton class with variable y
        Singleton y = Singleton.Singleton();
         Singleton z = Singleton.Singleton();
         x.s = (x.s).toUpperCase();
         System.out.println("String from x is " + x.s);
        System.out.println("String from y is " + y.s);
        System.out.println("String from z is " + z.s);
        System.out.println("\n");
        z.s = (z.s).toLowerCase();
         System.out.println("String from x is " + x.s);
        System.out.println("String from y is " + y.s);
        System.out.println("String from z is " + z.s);
    }
}
```

2. Write a code to convert class diagram into code.

```java
class Person
{
//String name,id;
void display()
{
    String n="Ganesh";
    String i="emp002";
System.out.println("Name of employe="+n+"Id= "+i);
}
}
class Mobile extends Person
{
    //int Number;
    //String Brand;
    void display()
    {
        int nu=308;
        String b="Samsung";
    System.out.println("Number is="+nu+"Brand is="+b);
    }
}
class Bill extends Mobile
{
//int billno;
//String mobile;
//double amount;
void display()
{
    int bno=101;
```

```java
        String m="Yes";

        double a=45000;

        System.out.println("Bill no="+bno+"Mobile number="+m+"Amount
is="+a);

}

}
public class classtocode

{

public static void main(String args[])

{

Person bi=new Person();

Person sc=new Mobile();

Person t1=new Bill();

bi.display();

sc.display();

t1.display();

}

}
```