Practical No. 2

Aim: a. Write a program to implement the concepts of Inheritance and Method overriding

Code:
```java
class A
{
   void show()
   {
      System.out.println("Base Class");
   }
}
class B extends A
{
   void show()
   {
      System.out.println("Derived Class");
   }
}
class pra2a
{
   public static void main(String args[])
   {
      B s=new B();
      s.show();
   }
}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac pra2a.java

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java pra2a
Derived Class

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>
```

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Aim: b. Write a program to implement the concepts of Abstract classes and methods

Code:
```java
abstract class Shape
{
    public abstract double area();
}
class Circle extends Shape
{
    private double radius;
    public Circle(double radius)
    {
        this.radius=radius;
    }
    @Override
    public double area()
    {
        return Math.PI*radius*radius;
    }
}
public class pra2b
{
    public static void main(String[] args)
    {
        Circle circle=new Circle(10.0);
        System.out.println("Circle Area:"+circle.area());
    }
}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>javac pra2b.java

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java pra2b
Circle Area:314.1592653589793

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>
```

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Aim: c. Write a program to implement the concept of interfaces
Code:

```
interface Shape
{
    double area();
    double perimeter();
}
class Circle implements Shape
{
    private double radius;
    public Circle(double radius)
    {
        this.radius=radius;
    }
    @Override
    public double area()
    {
        return Math.PI*radius*radius;
    }
    @Override
    public double perimeter()
    {
        return 2*Math.PI*radius;
    }
}
public class pra2c
{
    public static void main(String[] args)
    {
        Circle circle=new Circle(10.0);
        System.out.println("circle area:"+ circle.area());
        System.out.println("circle perimeter:"+ circle.perimeter());
    }
}
```

Output:

```
C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>java pra2c
circle area:314.1592653589793
circle perimeter:62.83185307179586

C:\Users\Vishwakarma\My work\DgetCollege\Sem 4\JS>
```