Practical – 5

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Section C
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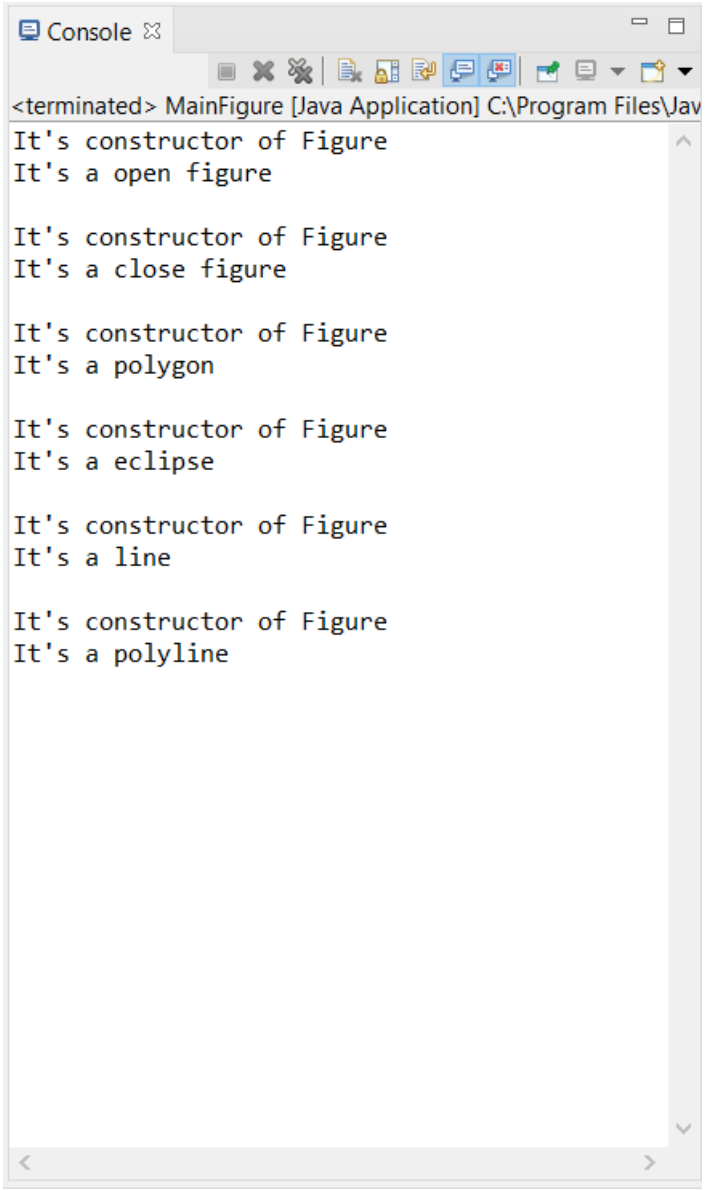
Write a program to create a graphic class hierarchy. Create an abstract base class Figure and derive two classes open and close from that. Declare 2 more classes' polygon and eclipse from close. Derive line and polyline from class open. In all the classes include overridden method to display data members. Demonstrate dynamic method dispatch on display method. Include appropriate constructors in all classes.

```
abstract class Figure
{
	Figure()
	{
		System.out.println("It's constructor of Figure");
	}
    abstract void print();
}
class open extends Figure
{
    public void print()
    {
        System.out.println("It's a open figure\n");
    }
}
class close extends Figure
{
    public void print()
    {
        System.out.println("It's a close figure\n");
    }
}
class polygon extends close
{
    public void print()
    {
        System.out.println("It's a polygon\n");
    }
}
class eclipse extends close
{
    public void print()
    {
        System.out.println("It's a eclipse\n");
    }
}
class line extends open
{
```

```
    public void print()
    {
        System.out.println("It's a line\n");
    }
}
class polyline extends open
{
    public void print()
    {
        System.out.println("It's a polyline\n");
    }
}

public class MainFigure
{
    public static void main(String args[])
    {
       Figure o = new open();
       o.print();
       Figure c = new close();
       c.print();
         Figure pg = new polygon();
         pg.print();
         Figure ec = new eclipse();
         ec.print();
         Figure ln = new line();
         ln.print();
         Figure pl = new polyline();
         pl.print();
    }
}
```


Console
<terminated> MainFigure [Java Application] C:\Program Files\Jav
It's constructor of Figure
It's a open figure
It's constructor of Figure
It's a close figure
It's constructor of Figure
It's a polygon
It's constructor of Figure
It's a eclipse
It's constructor of Figure
It's a line
It's constructor of Figure
It's a polyline