

5. Develop a JAVA program to create a class named shape. Create three sub classes namely: circle, triangle and square, each class has two member functions named draw () and erase ().

Demonstrate polymorphism concepts by developing suitable methods, defining member data and main program

Save Filename as: ShapeMain.java

Solution:-

// Filename: ShapeMain.java

```
class Shape {  
    public void draw() {  
        System.out.println("Drawing a shape");  
    }  
  
    public void erase() {  
        System.out.println("Erasing a shape");  
    }  
}
```

```
class Circle extends Shape {  
    @Override  
    public void draw() {  
        System.out.println("Drawing a circle");  
    }  
  
    @Override  
    public void erase() {  
        System.out.println("Erasing a circle");  
    }  
}
```

```
class Triangle extends Shape {
```

```
@Override  
public void draw() {  
    System.out.println("Drawing a triangle");  
}
```

```
@Override  
public void erase() {  
    System.out.println("Erasing a triangle");  
}  
}
```

```
class Square extends Shape {  
    @Override  
    public void draw() {  
        System.out.println("Drawing a square");  
    }  
}
```

```
@Override  
public void erase() {  
    System.out.println("Erasing a square");  
}  
}
```

```
public class ShapeMain {  
    public static void main(String[] args) {  
        Shape[] shapes = new Shape[3];  
        shapes[0] = new Circle();  
        shapes[1] = new Triangle();  
        shapes[2] = new Square();  
  
        for (Shape shape : shapes) {
```

```
        shape.draw();  
        shape.erase();  
        System.out.println(); // Blank line for clarity  
    }  
}
```

}Compile As: javacShapeMain.java

Run As: java ShapeMain

Output:

Drawing a circle

Erasing a circle

Drawing a triangle

Erasing a triangle

Drawing a square

Erasing a square