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DATE – 29 NOV 2021

BRANCH – BTECH CSE

SEC = 608 - A

UID -20BCS2761

Subject – JAVA FINAL

AIM – Write a program to create a class named shape. It should contain 2 methods- draw() and erase() which should print "Drawing Shape" and "Erasing Shape" respectively.

For this class we have three sub classes- Circle, Triangle and Square and each class override the parent class functions- draw () and erase ().

The draw() method should print "Drawing Circle", "Drawing Triangle", "Drawing Square" respectively.

The erase() method should print "Erasing Circle", "Erasing Triangle", "Erasing Square" respectively.

Create objects of Circle, Triangle and Square in the following way and observe the polymorphic nature of the class by calling draw() and erase() method using each object.

Shape c=new Circle();

Shape t=new Triangle();

Shape s=new Square();

Sol –

CODE IN TEXT -

```
package com.company;

class Shape {

    void draw() {
        System.out.println("Drawing Shape");
    }

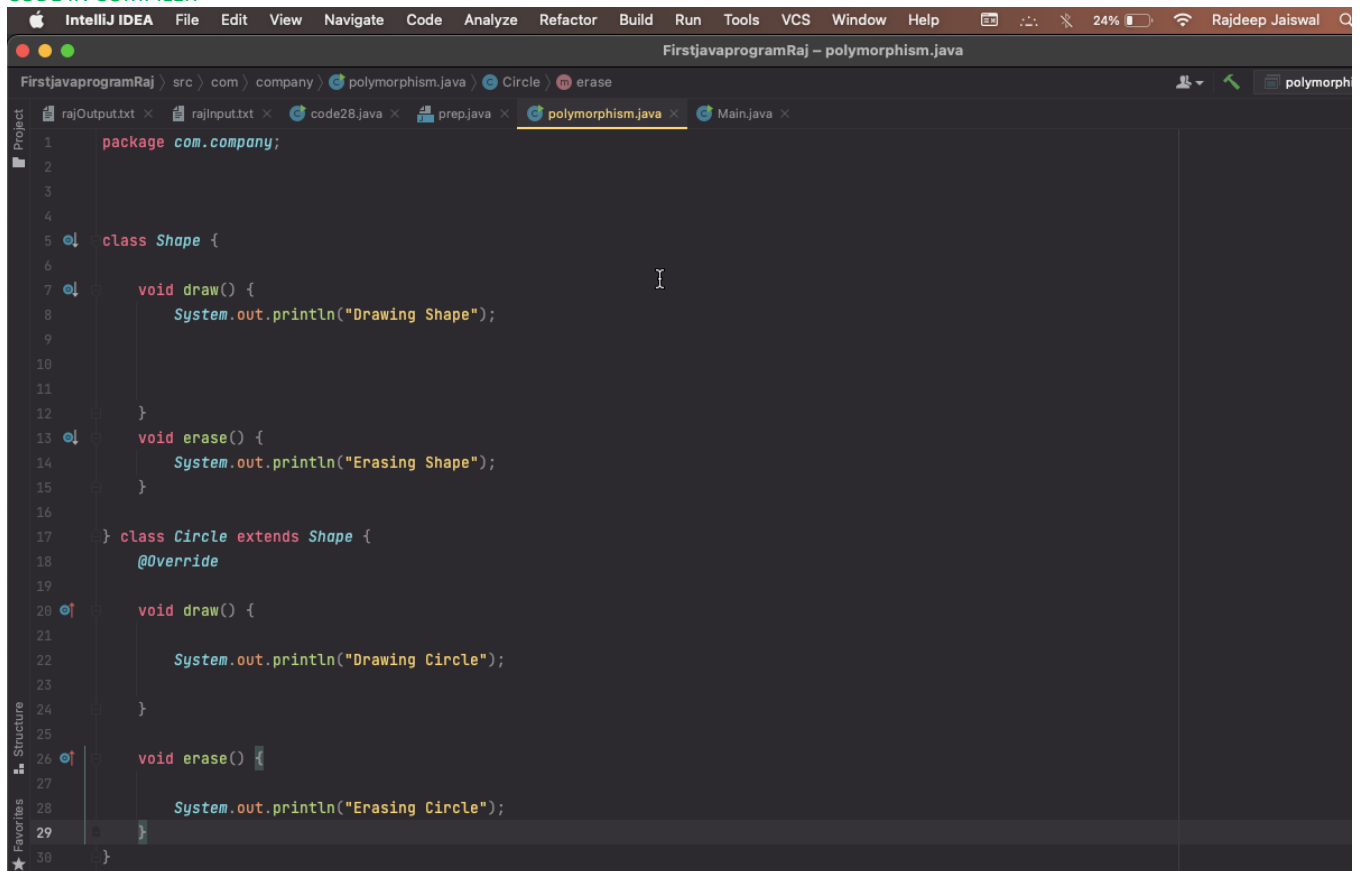
    void erase() {
        System.out.println("Erasing Shape");
    }
}

class Circle extends Shape {
    @Override
```

```
void draw() {  
    System.out.println("Drawing Circle");  
}  
void erase() {  
    System.out.println("Erasing Circle");  
}  
class Triangle extends Shape { @Override  
void draw() {  
    System.out.println("Drawing Triangle");  
}  
void erase() { System.out.println("Erasing Triangle");  
}  
}  
class Square extends Shape { @Override  
void draw() {  
    System.out.println("Drawing Square");  
}  
void erase() {  
    System.out.println("Erasing Square");  
}  
}  
public class polymorphism {  
    public static void main(String args[]) {  
  
        Shape c=new Circle();  
        Shape t=new Triangle();  
        Shape s=new Square();  
    }  
}
```

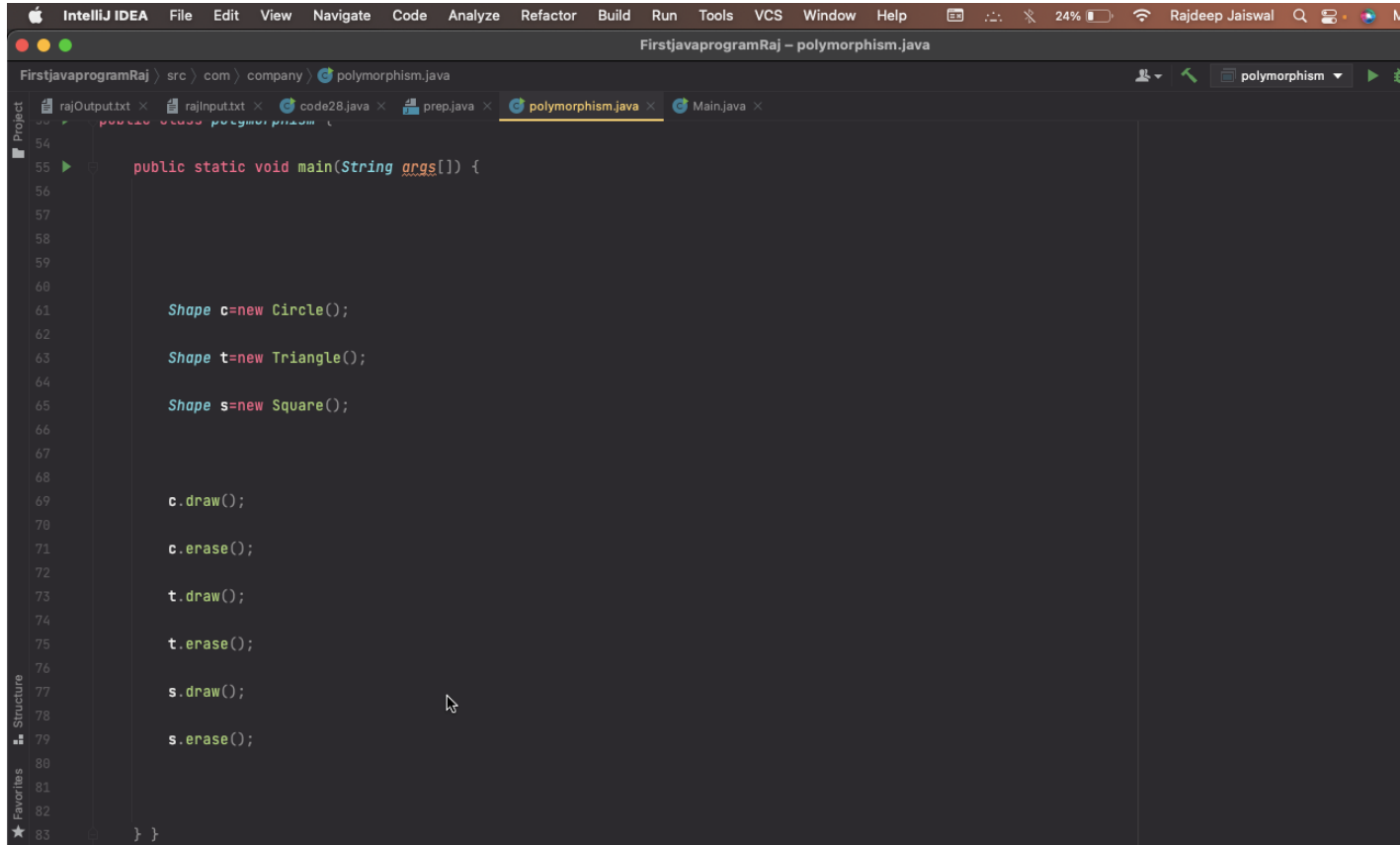
```
c.draw();  
  
c.erase();  
  
t.draw();  
  
t.erase();  
  
s.draw();  
  
s.erase();  
  
} }
```

CODE IN COMPILER -



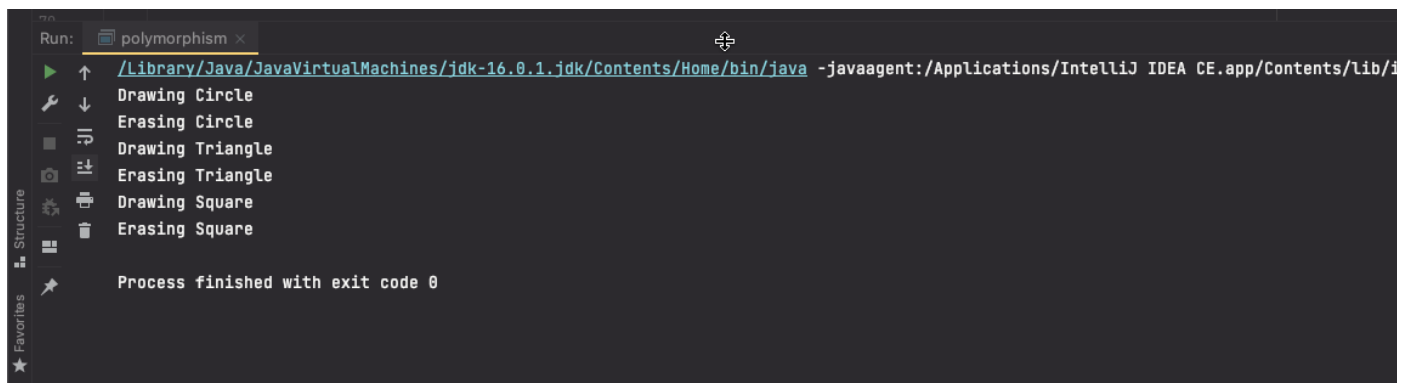
```
IntelliJ IDEA File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help 24% Rajdeep Jaiswal  
FirstjavaprogramRaj - polymorphism.java  
FirstjavaprogramRaj | src | com | company | polymorphism.java | Circle | erase  
rajOutput.txt | rajInput.txt | code28.java | prep.java | polymorphism.java | Main.java  
Project  
1 package com.company;  
2  
3  
4  
5 class Shape {  
6  
7 void draw() {  
8 System.out.println("Drawing Shape");  
9  
10  
11  
12 }  
13 void erase() {  
14 System.out.println("Erasing Shape");  
15 }  
16  
17 class Circle extends Shape {  
18 @Override  
19  
20 void draw() {  
21  
22 System.out.println("Drawing Circle");  
23  
24 }  
25  
26 void erase() {  
27  
28 System.out.println("Erasing Circle");  
29  
30 }
```

```
IntelliJ IDEA  File  Edit  View  Navigate  Code  Analyze  Refactor  Build  Run  Tools  VCS  Window  Help  24%  Rajdeep
FirstjavaprogramRaj - polymorphism.java
FirstjavaprogramRaj > src > com > company > polymorphism.java > Circle > draw
rajOutput.txt x rajInput.txt x code28.java x prep.java x polymorphism.java x Main.java x
28     System.out.println("Erasing Circle");
29     }
30     }
31
32     class Triangle extends Shape { @Override
33     void draw() {
34         System.out.println("Drawing Triangle");
35     }
36     void erase() { System.out.println("Erasing Triangle");
37     }
38     }
39     class Square extends Shape { @Override
40
41
42
43     void draw() {
44         System.out.println("Drawing Square");
45     }
46
47     void erase() {
48
49         System.out.println("Erasing Square");
50     }
51     }
52
53     public class polymorphism {
54
55     public static void main(String args[]) {
56
57
```



```
54
55 public static void main(String args[]) {
56
57
58
59
60
61     Shape c=new Circle();
62
63     Shape t=new Triangle();
64
65     Shape s=new Square();
66
67
68
69     c.draw();
70
71     c.erase();
72
73     t.draw();
74
75     t.erase();
76
77     s.draw();
78
79     s.erase();
80
81
82
83 }
```

OUTPUT –



```
Run: polymorphism x
/Library/Java/JavaVirtualMachines/jdk-16.0.1.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/...
Drawing Circle
Erasing Circle
Drawing Triangle
Erasing Triangle
Drawing Square
Erasing Square
Process finished with exit code 0
```