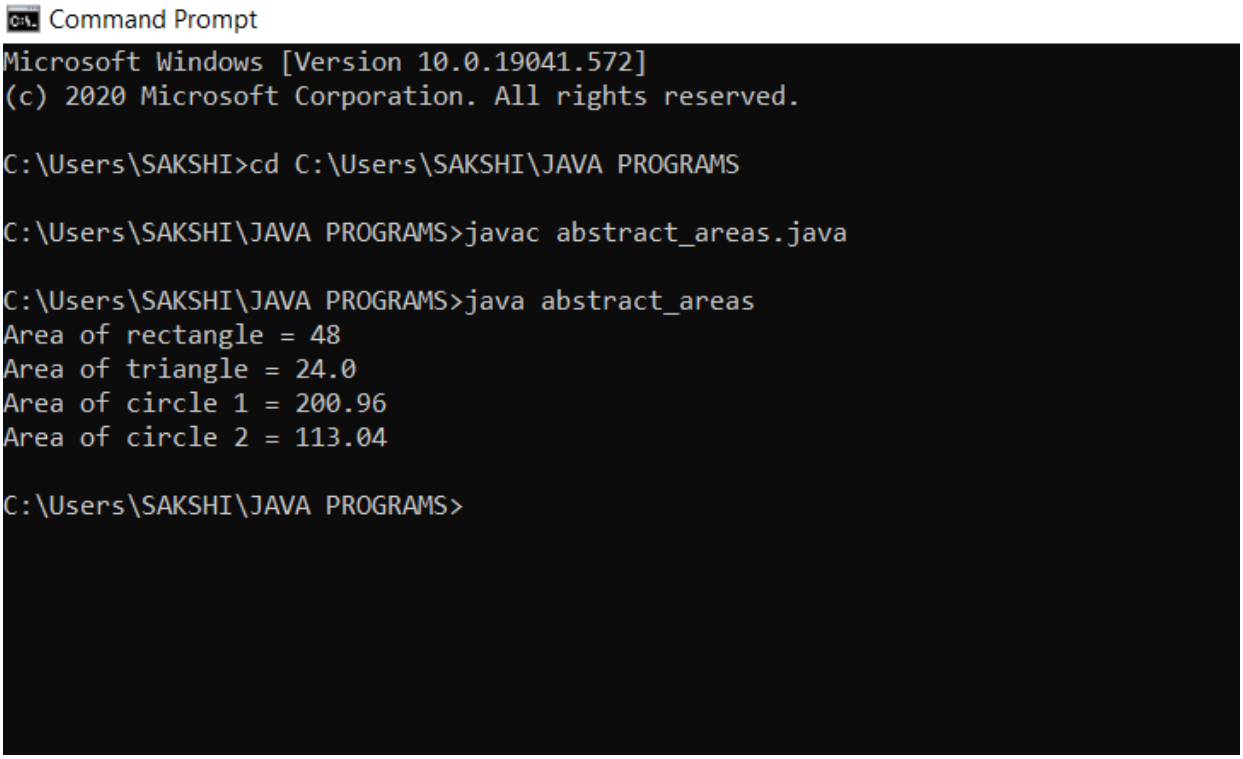
LAB PROGRAM 4

Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea( ). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea( ) that prints the area of the given shape.

```
abstract class Shape
{
 int a=8, b=6;
 abstract void printArea();
}
class Rectangle extends Shape
{
 int area_rectangle;
 void printArea()
 {
  area_rectangle = a*b;
  System.out.println("Area of rectangle = " + area_rectangle);
 }
}
class Triangle extends Shape
{
 float area_triangle;
 void printArea()
 {
  area_triangle = (float)(0.5*a*b);
  System.out.println("Area of triangle = " + area_triangle);
 }
```

```
}
class Circle extends Shape
{
 float area_circle_1, area_circle_2;
 void printArea()
 {
  area_circle_1 = (float)(3.14*a*a);
  area_circle_2 = (float)(3.14*b*b);
  System.out.println("Area of circle 1 = " + area_circle_1);
  System.out.println("Area of circle 2 = " + area_circle_2);
 }
}
class abstract_areas
{
 public static void main(String args[])
 {
  Rectangle r = new Rectangle();
  r.printArea();
  Triangle t = new Triangle();
  t.printArea();
  Circle c = new Circle();
  c.printArea();
 }
}
```


Command Prompt
Microsoft Windows [Version 10.0.19041.572]
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C:\Users\SAKSHI>cd C:\Users\SAKSHI\JAVA PROGRAMS
C:\Users\SAKSHI\JAVA PROGRAMS>javac abstract_areas.java
C:\Users\SAKSHI\JAVA PROGRAMS>java abstract_areas
Area of rectangle = 48
Area of triangle = 24.0
Area of circle 1 = 200.96
Area of circle 2 = 113.04
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