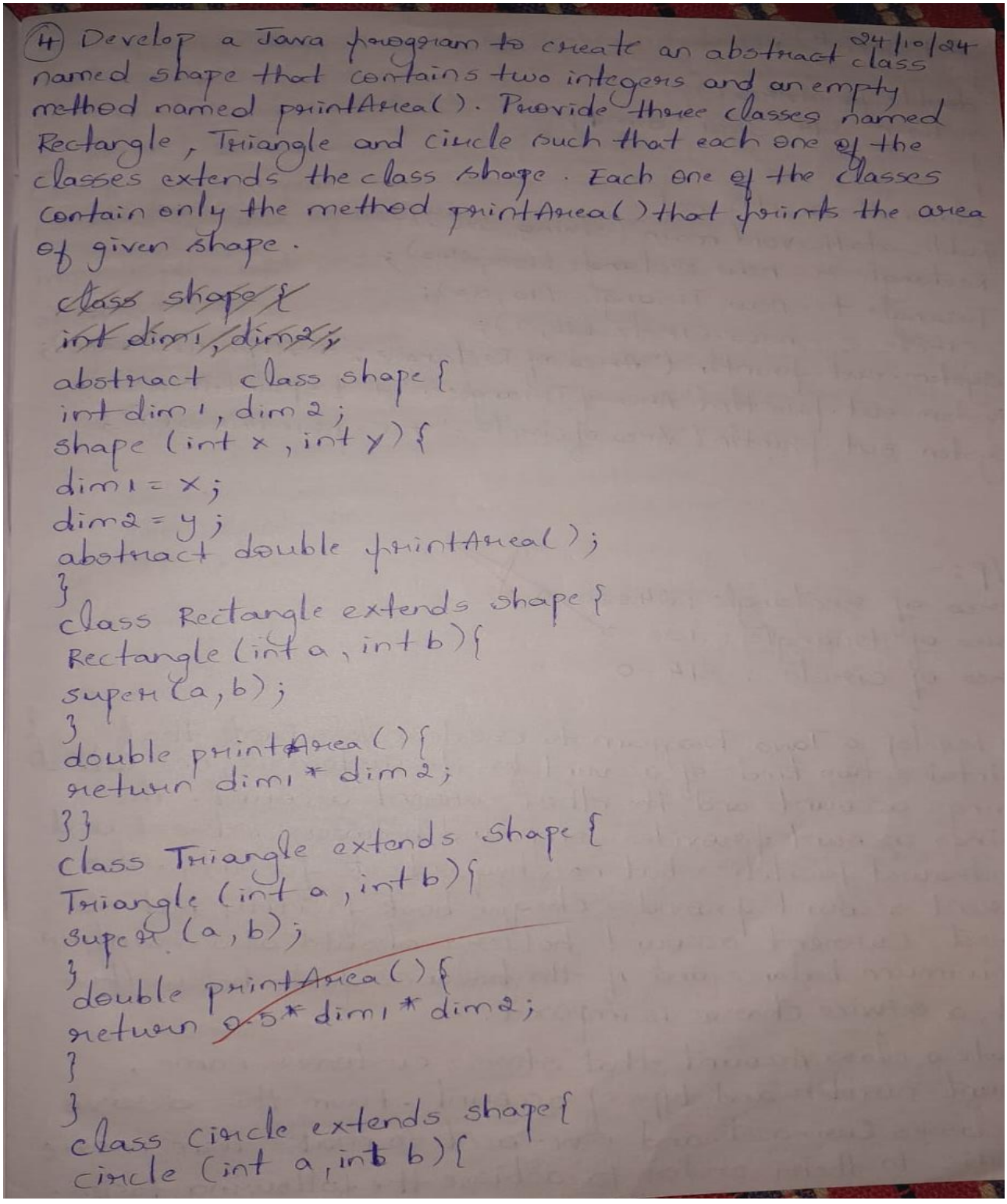
Program 4

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.



(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 given shape. 24/10/24

```
class shape{
int dim1, dim2;
abstract class shape{
int dim1, dim2;
shape(int x, int y){
dim1 = x;
dim2 = y;
abstract double printArea();
}
class Rectangle extends shape{
Rectangle(int a, int b){
super(a,b);
}
double printArea(){
return dim1 * dim2;
}}
class Triangle extends shape{
Triangle(int a, int b){
super(a,b);
}double printArea(){
return 0.5 * dim1 * dim2;
}
}
class circle extends shape{
circle(int a, int b){
```

```
    super(a, b);
  }
  double printArea(){
  return 3.14 * dim1 * dim2;
  }
}
class AbstractDemo{
public static void main (String SS[]){
Rectangle r = new Rectangle (100, 240);
Triangle t = new Triangle (10, 20);
 Circle c = new Circle (10, 0);
System.out.println ("Area of Rectangle :" + r.printArea());
System.out.println("Area of Triangle :" + t.printArea());
System.out.println("Area of circle :" + c.printArea());
}
}
```

O/P :-

Area of rectangle : 24000.0
Area of triangle : 100.0
Area of circle : 314.0

(5) Develop a Java Program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound between interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed.

Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their order to achieve the following tasks:

```
abstract class Shape{
int dim1,dim2;
Shape(int x,int y){
dim1=x;
dim2=y;}
abstract double printArea();
}
class Rectangle extends Shape{
Rectangle(int a,int b){
super(a,b);
}
double printArea(){
return dim1*dim2;
}}
class Triangle extends Shape{
Triangle(int a,int b){
super(a,b);
}
double printArea(){
return 0.5*dim1*dim2;
}
}
class Circle extends Shape{
Circle (int a,int b){
super(a,0);
}
double printArea(){
return 3.14*dim1*dim1;
}
}
```

```
class AbstractDemo{
public static void main(String ss[]){
Rectangle r=new Rectangle(100,240);
Triangle t=new Triangle(10,20);
Circle c =new Circle(10,0);
System.out.println("Area of rectangle:"+r.printArea());
System.out.println("Area of triangle:"+t.printArea());
System.out.println("Area of circle:"+c.printArea());
}
}
```