```
import java.util.*;
abstract class shape{
	int i;
	int j;
	int r;

	shape(int a, int b){
    i=a;
    j=b;
	}
	shape(int r){
		 this.r=r;
	}
	abstract void printarea();
		// System.out.println("Abstract method");

}
class rectangle extends shape{
  rectangle(int a, int b){
	super(a,b);

  }
  void printarea(){
	double area=i*j;
	System.out.println("Area of rectangle is: "+area);
  }
}
class triangle extends shape{
	triangle(int a, int b){
		super(a,b);

	}
	void printarea(){
		double area=i*j/2;
		System.out.println("Area of triabgle is: "+area);
	}
}
class circle extends shape{
	circle(int r){
		super(r);
	}
	void printarea(){
		double area=3.14*r*r;
		System.out.println("Area of circle is: "+area);
	}
}
class lab4_abstract{
```

```
        public static void main(String args[]){
                // shape s = new shape();
                rectangle rec = new rectangle(5,7);
                triangle tri = new triangle(5,6);
                circle cir = new circle(2);
                shape r;
                // r=s;
                // r.printarea();
                r=rec;
                r.printarea();
                r=tri;
                r.printarea();
                r=cir;
                r.printarea();
        }
}
```

output:

```
prateekghanti@Prateeks-MBP java_programs % javac lab4_abstract.java
prateekghanti@Prateeks-MBP java_programs % java lab4_abstract
Area of rectangle is: 35.0
Area of triabgle is: 15.0
Area of circle is: 12.56
prateekghanti@Prateeks-MBP java_programs %
```