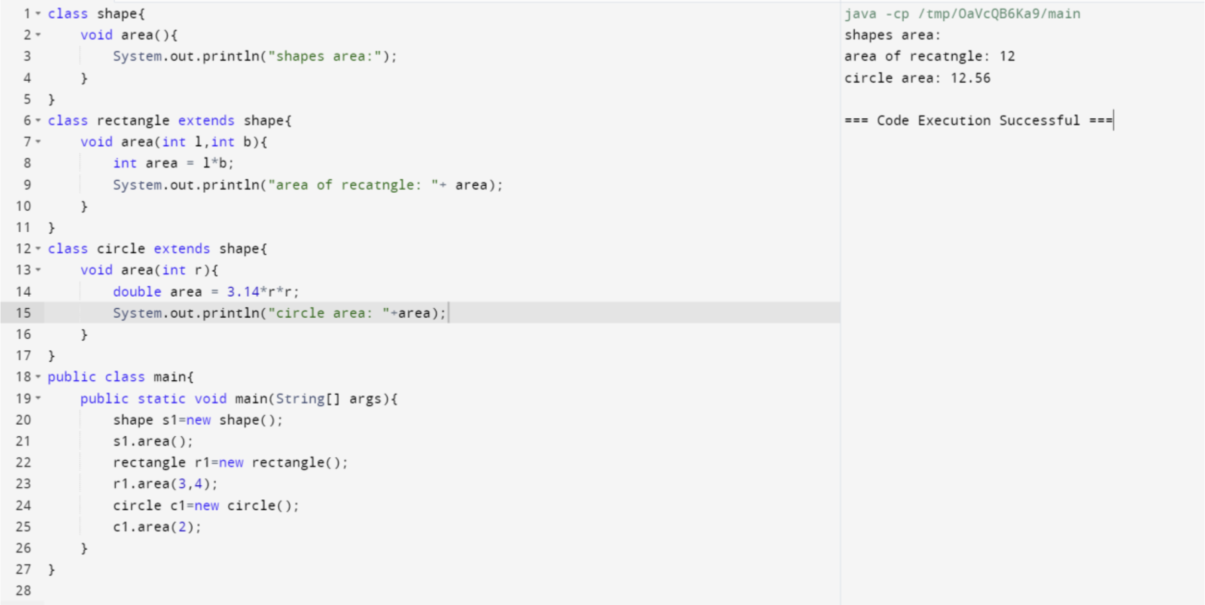
CSA0961-JAVA PROGRAMMING

TEST – 4 18-07-24

SET-I

1. Create a base class called Shape with a virtual function area(). Derive two classes Rectangle

and Circle from the base class. Implement the area() function for each class.



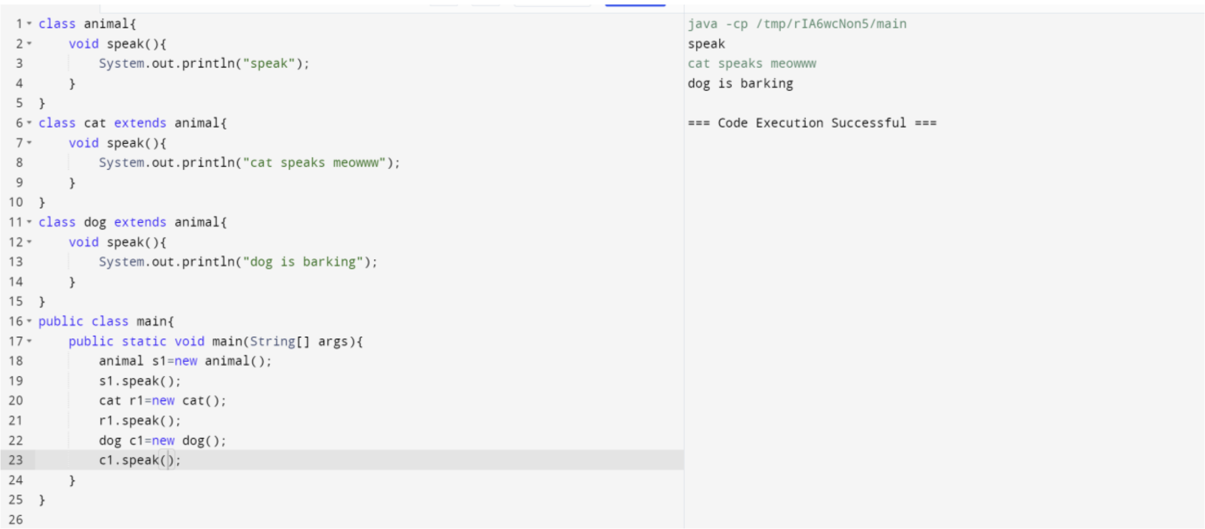
```
class shape{
    void area(){
        System.out.println("shapes area:");
    }
}
class rectangle extends shape{
    void area(int l,int b){
        int area = l*b;
        System.out.println("area of recatngle: "+ area);
    }
}
class circle extends shape{
    void area(int r){
        double area = 3.14*r*r;
        System.out.println("circle area: "+area);
    }
}
public class main{
    public static void main(String[] args){
        shape s1=new shape();
        s1.area();
        rectangle r1=new rectangle();
        r1.area(3,4);
        circle c1=new circle();
        c1.area(2);
    }
}
```

```
java -cp /tmp/OaVcQB6Ka9/main
shapes area:
area of recatngle: 12
circle area: 12.56

=== Code Execution Successful ===
```

2. Create a base class called Animal with a virtual function speak(). Derive two classes Cat and

Dog from the base class. Implement the speak() function for each class.



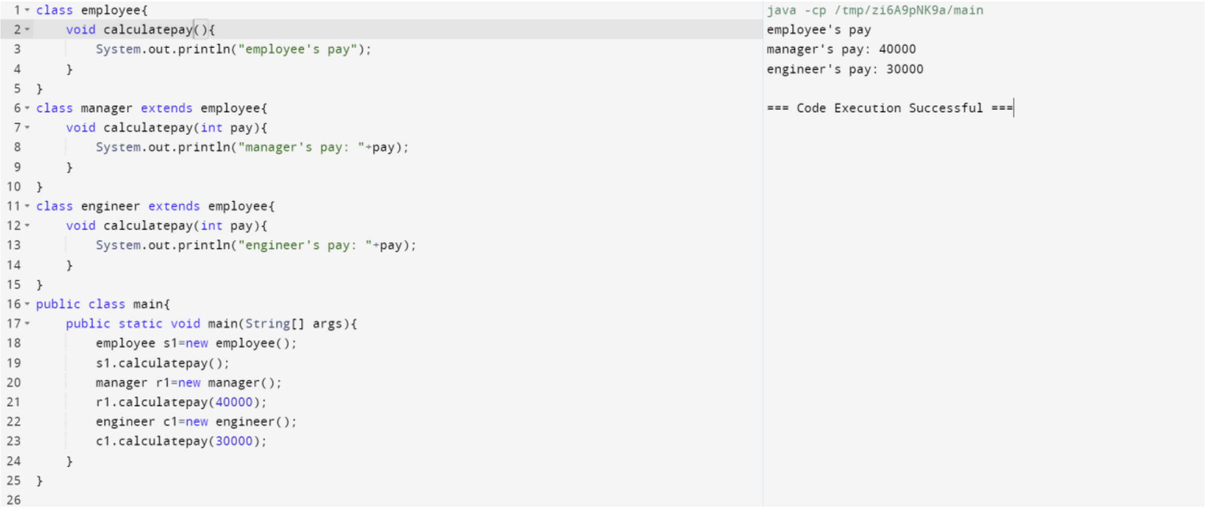
```
class animal{
    void speak(){
        System.out.println("speak");
    }
}
class cat extends animal{
    void speak(){
        System.out.println("cat speaks meowww");
    }
}
class dog extends animal{
    void speak(){
        System.out.println("dog is barking");
    }
}
public class main{
    public static void main(String[] args){
        animal s1=new animal();
        s1.speak();
        cat r1=new cat();
        r1.speak();
        dog c1=new dog();
        c1.speak();
    }
}
```

```
java -cp /tmp/rIA6wcNon5/main
speak
cat speaks meowww
dog is barking

=== Code Execution Successful ===
```

3. Create a base class called Employee with a virtual function calculatePay(). Derive two classes

Manager and Engineer from the base class. Implement the calculatePay() function for each class.



```
class employee{
    void calculatepay(){
        System.out.println("employee's pay");
    }
}
class manager extends employee{
    void calculatepay(int pay){
        System.out.println("manager's pay: "+pay);
    }
}
class engineer extends employee{
    void calculatepay(int pay){
        System.out.println("engineer's pay: "+pay);
    }
}
public class main{
    public static void main(String[] args){
        employee s1=new employee();
        s1.calculatepay();
        manager r1=new manager();
        r1.calculatepay(40000);
        engineer c1=new engineer();
        c1.calculatepay(30000);
    }
}
```

```
java -cp /tmp/zi6A9pNK9a/main
employee's pay
manager's pay: 40000
engineer's pay: 30000

=== Code Execution Successful ===
```