```java
// No need to print
public class Exercise1_2 {
    public static void main(String[] args) {
        System.out.println("For cy1");
        Cylinder cy1 = new Cylinder();
        System.out.println("Radius is "+ cy1.getRadius());
        System.out.println("Height is "+ cy1.getHeight());
        System.out.println("Color is "+ cy1.getColor());
        System.out.println("Base Area is "+ cy1.getArea());
        System.out.println("Volume is "+ cy1.getVolume());

        System.out.println("For cy2 ");
        Cylinder cy2 = new Cylinder(5.0, 2.0);
        System.out.println("Radius is "+ cy2.getRadius());
        System.out.println("Height is "+ cy2.getHeight());
        System.out.println("Color is "+ cy2.getColor());
        System.out.println("Base Area is "+ cy2.getArea());
        System.out.println("Volume is "+ cy2.getVolume());
    }
}

class Circle{
    private double radius;
    private String color;

    public Circle() {
        this.radius = 1.0;
        this.color = "red";
    }

    public Circle(double radius) {
```

```
32          this.radius = radius;
33      }
34
35      public Circle(double radius, String color) {
36          this.radius = radius;
37          this.color = color;
38      }
39
40      public double getRadius() {
41          return radius;
42      }
43
44      public String getColor() {
45          return color;
46      }
47
48      public double getArea(){
49          return this.radius * this.radius * 22/7;
50      }
51  }
52
53  class Cylinder extends Circle{
54      private double height;
55
56      public Cylinder() {
57          super();
58          this.height = 1.0;
59      }
60
61      public Cylinder(double radius, double height) {
62          super(radius);
63          this.height = height;
64      }
65
66      public double getHeight() {
67          return height;
68      }
69
70      public void setHeight(double height) {
71          this.height = height;
72      }
```

```
73      public double getVolume(){
74          return getArea()*height;
75      }
76  }
```

```java
class Employee{
    String name;
    double salary;

    public Employee() {
    }

    public Employee(String name, double salary) {
        this.name = name;
        this.salary = salary;
    }

    public String toString() {
        return "Employee{" +
                "name='" + name + '\'' +
                ", salary=" + salary +
                '}';
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public double getSalary() {
        return salary;
    }

    public void setSalary(double salary) {
        this.salary = salary;
    }
}

class Manager extends Employee{
    String department;

    public Manager(String department) {
        this.department = department;
```

```java
    }

    public Manager(String name, double salary, String department) {
        super(name, salary);
        this.department = department;
    }

    public String getDepartment() {
        return department;
    }

    public void setDepartment(String department) {
        this.department = department;
    }


    public String toString() {
        return "Manager{" +
                "name='" + name + '\'' +
                ", salary=" + salary +
                ", department='" + department + '\'' +
                '}';
    }
}
public class Exercise2_4 {
    public static void main(String[] args) {
        Employee e1 = new Employee("Ramu", 5000);
        Employee e2 = new Employee("Shamu", 6000);

        Manager m1 = new Manager("Manager1", 50000, "IT");
        Manager m2 = new Manager("Manager2", 80000, "Research");

        System.out.println(e1.toString());
        System.out.println(m2.toString());
    }
}

```

```java
abstract class Worker{
    String name;
    double salary_rate;
    public abstract double computePay();

    public Worker(String name, double salary_rate
) {
        this.name = name;
        this.salary_rate = salary_rate;
    }

    public String getName() {
        return name;
    }

    public double getSalary_rate() {
        return salary_rate;
    }
}

class FullTimeWorker extends Worker{
    int hours_worked;


    public FullTimeWorker(String name, double
salary_rate, int hours_worked) {
        super(name, 100);
        this.hours_worked = hours_worked;
    }


    public double computePay() {
        if (hours_worked>240){
            return 100*240;
        }
        return 100 * hours_worked;
    }
}

class HourlyWorker extends Worker{
    int hours_worked;
```

```java

    public HourlyWorker(String name, double salary_rate, int hours_worked) {
        super(name, salary_rate);
        this.hours_worked = hours_worked;
    }

    public double computePay() {
        if (hours_worked > 60){
            return 50 * 60;
        }
        return 50 * hours_worked;
    }
}

public class Exercise3_2 {
    public static void main(String[] args) {
        FullTimeWorker f1 = new FullTimeWorker("Ramu", 500, 15);
        HourlyWorker h1 = new HourlyWorker("Shamu", 100, 54);
        System.out.println(f1.computePay());
        System.out.println(h1.computePay());
    }
}

```