

```

public class Company {
    private String name;
    private Employee[] arrEmps;
    private int nbe;

    Company(String name, int size){
        this.name = name;
        arrEmps = new Employee[size];
        nbe = 0;
    }

    public boolean addEmployee(Employee e){
        if(nbe >= arrEmps.length)
            return false;

        if(e instanceof Manager)
            arrEmps[nbe++] = new Manager((Manager)e);
        else if(e instanceof Consultant)
            arrEmps[nbe++] = new Consultant((Consultant)e);
        else
            arrEmps[nbe++] = new Employee(e);

        return true;
    }
}

```

```
}
```

```
public void displayAll(){  
    System.out.println("Name: "+name);  
    for(int i=0; i<nbe;i++)  
        arrEmps[i].display();  
}
```

```
public int countConsultant(){  
    int count=0;  
    for(int i=0;i<nbe;i++)  
        if(arrEmps[i] instanceof Consultant)  
            count++;  
    return count;  
}
```

```
public Employee[] getHighSalary(double s){  
    Employee[] res = new Employee[nbe];  
    int j=0;  
    for(int i=0; i< nbe; i++)  
        if( arrEmps[i].calculateSalary() > s)  
            res[j++]= arrEmps[i];  
    return res;  
}
```

```

public Manager[] getManagers(int n){
    Manager[] res = new Manager[nbe];
    int j=0;

    for(int i=0; i<nbe; i++)
        if(arrEmps[i] instanceof Manager)
            if(((Manager)arrEmps[i]).getNbEmps(>n)
                res[j++]=(Manager) arrEmps[i];
    return res;
}
}

```

```

}

```

```

////////////////////

```

```

public class Consultant extends Employee{

```

```

    private int hoursPerWeek ;

```

```

    Consultant(String name, int rank, int yearsOfExperince, int
hoursPerWeek ) {

```

```

        super(name, rank, yearsOfExperince);

```

```

        this.hoursPerWeek = hoursPerWeek ;

```

```
}
```

```
Consultant(Consultant c){
```

```
    super(c);
```

```
    hoursPerWeek= c.hoursPerWeek;
```

```
}
```

```
public int getHoursPerWeek() {
```

```
    return hoursPerWeek;
```

```
}
```

```
public void display(){
```

```
    super.display();
```

```
    System.out.println(" Hours per Week: "+hoursPerWeek);
```

```
}
```

```
public double calculateSalary(){
```

```
    return hoursPerWeek * 1000 + getRank() * 500 ;
```

```
}
```

```
}
```

```
////////////////////////////////////
```

```
public class Employee {
```

```
private String name;  
private int rank;  
private int yearsOfExperience;
```

```
Employee(String name, int rank, int yearsOfExperience)  
{  
    this.name = name;  
    this.rank = rank;  
    this.yearsOfExperience = yearsOfExperience;  
}
```

```
Employee(Employee e){  
    name = e.name;  
    rank = e.rank;  
    yearsOfExperience = e.yearsOfExperience;  
}
```

```
public int getRank() {  
    return rank;  
}
```

```
public int getYearsOfExperience() {  
    return yearsOfExperience;  
}
```

```
public void display(){  
    System.out.print("name: "+name+" Rank: "+rank+" Years of  
Exp: "+ yearsOfExperince +" Salary: "+ calculateSalary());  
}
```

```
public double calculateSalary() {  
    return yearsOfExperince * 500 + rank * 1000;  
}
```

```
}
```

```
////////////////////////////////////
```

```
public class Manager extends Employee{
```

```
    private int nbEmps;
```

```
    Manager(String name, int rank, int yearsOfExperince, int nbEmps)  
{
```

```
        super(name, rank, yearsOfExperince);
```

```
        this.nbEmps = nbEmps;
```

```
}
```

```
    Manager(Manager m){
```

```
        super(m);
        this.nbEmps = m.nbEmps;
    }

    public int getNbEmps() {
        return nbEmps;
    }

    public void display(){
        super.display();
        System.out.println(" Number of employees: "+nbEmps+"
Salary: ");
    }

    public double calculateSalary(){
        return getYearsOfExperince() * 500 + getRank() * 1500 +
nbEmps * 10;
    }

}

////////////////////////////////////
```

```

public class Test {

    public static void main(String[] args) {

        Employee emp = new Employee("Ahmed",8,7);
        Manager manager = new Manager("Ali",12,12,20);
        Consultant consultant = new Consultant("Hamad",10,9,19);
        Company company = new Company("STC", 10);

        company.addEmployee(emp);
        company.addEmployee(manager);
        company.addEmployee(consultant);

        System.out.println("-----");
        company.displayAll();

        System.out.println("-----");

        System.out.println("Number of Consultants =
"+company.countConsultant());

        System.out.println("-----");

        Employee[] a = company.getHighSalary(20000);
        for(int i=0; i<a.length; i++)
            if(a[i] != null)
                a[i].display();

        System.out.println("-----");

        Manager[] m = company.getManagers(10);
    }
}

```



```
for(int i=0; i<m.length; i++)
```

```
    if(m[i] != null)
```

```
        m[i].display();
```

```
    }
```

```
}
```