Name: Adwait S Purao

UID: 2021300101

Batch:B2

Experiment:2A

Q1:

Write a menu driven program to recruit an employee (depending on his performance in various rounds) in some software company using constructor overloading.

Selection Criteria for each post is given below:

1. **Programmer(Minimum total of 80 marks):-**

Rounds:-

1. **Course Work**
2. **Aptitude Test**
3. **Technical Test**
4. **Interview**

2. **Team Leader(Minimum total of 85 marks):-**

Rounds:-

1. **Technical Test**
2. **Interview**
3. **Project Manager(Minimum score 90 marks)**

Rounds:-

1. **Interview**

Create a class Posting and write 3 constructors to initialize the object and set the parameters and display the employee post according to selection criteria.

Data members:

- **private int courseWork;**
- **private int AptTest;**
- **private int TechTest;**
- **private int interview;**

Methods:

- **public Posting(int courseWork, int AptTest, int TechTest,int interview)**
- **public Posting(int TechTest,int interview)**
- **public Posting(int interview)**

Make use of ‘this’ keyword. Create arrray of objects , give the list of candidates selected for each post(Programmer, Team Lead and project Manager)

```
package com.company.main;

import java.util.*;
class Posting{
    private int CourseWork;
    private int AptTest;
    private int TechTest;
    private int interview;
    int marks;


    public Posting(int courseWork, int
AptTest, int TechTest,int interview){
        this.CourseWork=courseWork;
        this.AptTest=AptTest;
        this.TechTest=TechTest;
        this.interview=interview;
    }

    public Posting(int TechTest,int
interview){
        this.TechTest=TechTest;
        this.interview=interview;
       CourseWork=0;
       AptTest=0;
    }

    public Posting(int interview){
        this.interview=interview;
        CourseWork=0;
```

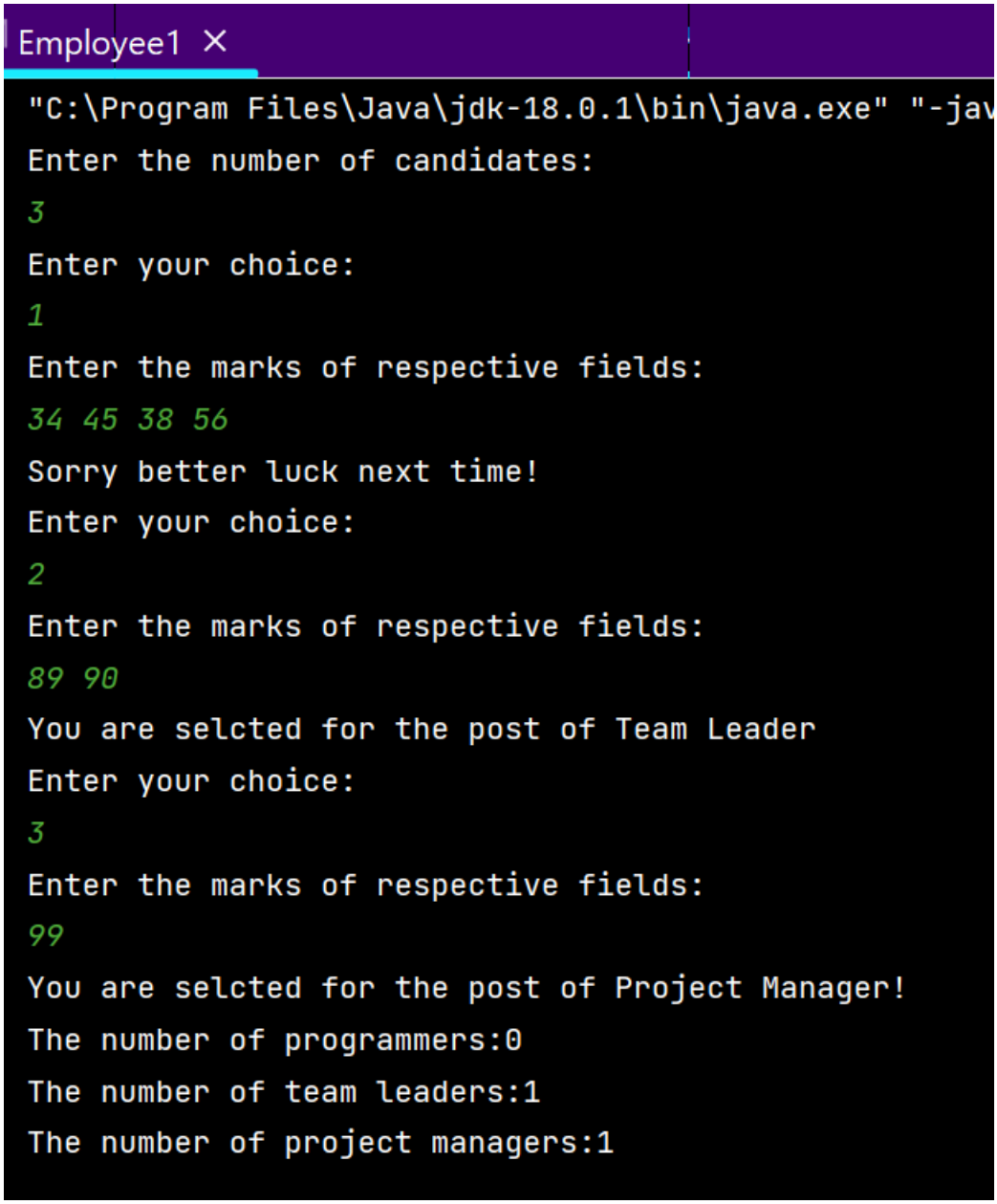
```
        AptTest=0;
        TechTest=0;
    }
    int getMarks(){
        return
marks=(CourseWork+AptTest+TechTest+inte
rview);
    }
}

public class Employee1 {
    public static void main(String[]
args) {
        Scanner sc = new
Scanner(System.in);
        int n;
        System.out.println("Enter the
number of candidates:");
        n = sc.nextInt();
        Posting obj[] = new Posting[n];
        int a, k;
        int
marks,prog=0,team_l=0,proj_man=0;

        /*Programmer=1
        Team leader =2
        Project manager=3 */
        for (k = 0; k < n; k++) {
            System.out.println("Enter
your choice:");
            a = sc.nextInt();
```

```
            if (a == 1) {

System.out.println("Enter the marks of
respective fields:");
                    obj[k] = new
Posting(sc.nextInt(), sc.nextInt(),
sc.nextInt(), sc.nextInt());
                   marks =
obj[k].getMarks();
                   if(marks/4 >=80){

System.out.println("You are selected
for the post of programmer!");
                   prog++;
                   }
                   else{

System.out.println("Sorry better luck
next time!");
                   }
               }
               else if (a == 2) {

System.out.println("Enter the marks of
respective fields:");
                    obj[k] = new
Posting(sc.nextInt(), sc.nextInt());
                    marks =
obj[k].getMarks();
                   if(marks/2 >=85){

System.out.println("You are selcted for
```

```
the post of Team Leader");
                    team_l++;
                }
                else{

System.out.println("Sorry better luck
next time!");
                }

            }
            else if (a == 3) {

System.out.println("Enter the marks of
respective fields:");
                obj[k] = new
Posting(sc.nextInt());
                marks =
obj[k].getMarks();
                if(marks>=90){

System.out.println("You are selcted for
the post of Project Manager!");
                    proj_man++;
                }
                else{

System.out.println("Sorry better luck
next time!");
                }
            }
            else if(a>3){
```

```
System.out.println("Invalid choice!");
                }

            }
            System.out.println("The number
of programmers:"+ prog);
            System.out.println("The number
of team leaders:" + team_l);
            System.out.println("The number
of project managers:" + proj_man);
        }
}
```

Output:



Q2:

A program to simulate a simple banking system in which the initial balance and rate of interest are read from the keyboard and these values are initialised using the constructor member function. The program consists of the following methods:

- To initialise the balance amount and the rate of interest using constructor member function
- To make deposit
- To withdraw an amount
- To find compound interest based on the rate of interest
- To know the balance amount
- To display the menu options

Note:

- Balance cannot be less than 0.
- In a Saving account if minBalance is set then for that the balance cannot go less than that amount. If it goes, an error must be shown.
- You can set the values by default for the above variables in Checking Account class

```
package com.company.main;

import java.util.*;
class Adetails{
    private int i_balance;
    private float rate;
    public int dep_amt;
    public int with_amt;
    public Adetails(int i_balance,float
rate){
        this.rate=rate;
        this.i_balance=i_balance;
    }
    public int deposit(int dep_amt){
        int c;
        System.out.println("Enter the
amount to be deposited:");
        c= i_balance +dep_amt;
        return c;
    }
    public int withdraw(int with_amt){
        int d;
        if(with_amt> i_balance){
            System.out.println("You don't
have enough bank balance!");
            return 0;
        }
        else if(with_amt< i_balance)
        {
            d= i_balance - with_amt;
            return d;
        }
        return 0;
```

```
    }
    public double
compound_interest(double n){
        double a,b,e,res;
        a= 1 +(double)rate/100d;
        b= Math.pow(a, n);
        e= b* i_balance;
        System.out.println("The total
amount in the account is:" + e);
        res= e - i_balance;
        return res;
    }
    public int disp_balance(){
        return i_balance;
    }
    public void menu()
    {
        System.out.println("Menu");
        System.out.println("1)Deposit");
        System.out.println("2)Withdraw");
        System.out.println("3)Compound
Interest");
        System.out.println("4)Balance");
        System.out.println("5)Menu");
        System.out.println("Exit");

    }
}
public class Banking {

    public static void main(String[]
args) {
        int ch;
        Scanner sc= new
Scanner(System.in);
        System.out.println("Enter the
balance amount and rate of interest:");
```

```
        Adetails obj = new
Adetails(sc.nextInt(),sc.nextFloat());

        System.out.print("Enter the
respective numbers for the following
operation\n");

System.out.println("Deposit(1)\nWithdraw(
2)\nDisplay balance(3)\nCompound
Interest(4)");
        System.out.println("Display
Menu(5)\nExit(6)");
        ch= sc.nextInt();
        switch (ch) {
            case 1 -> {
                int a;
                System.out.println("Enter
the deposit amount");
                a = sc.nextInt();

                System.out.println("The
final balance amount is: " +
obj.deposit(a));

            }
            case 2 -> {
                int b;
                System.out.println("Enter
the withdrawal amount:");
                b = sc.nextInt();
                System.out.println("The
final balance amount is: " +
obj.withdraw(b));
            }
            case 3 -> {
                System.out.println("Your
remaining balance is: " +
```

```
obj.disp_balance());


                }
                case 4 -> {
                    double n;
                    System.out.println("Enter
the number of years:");
                    n = sc.nextDouble();
                    System.out.println("The
compound interest is:" +
obj.compound_interest(n));

                }
                case 5 -> {
                    obj.menu();

                }
                case 6 -> {
                    System.out.println("You
have exited from the process");
                }
                default -> {

System.out.println("Invalid choice!");
                }
            }

        }
}
```

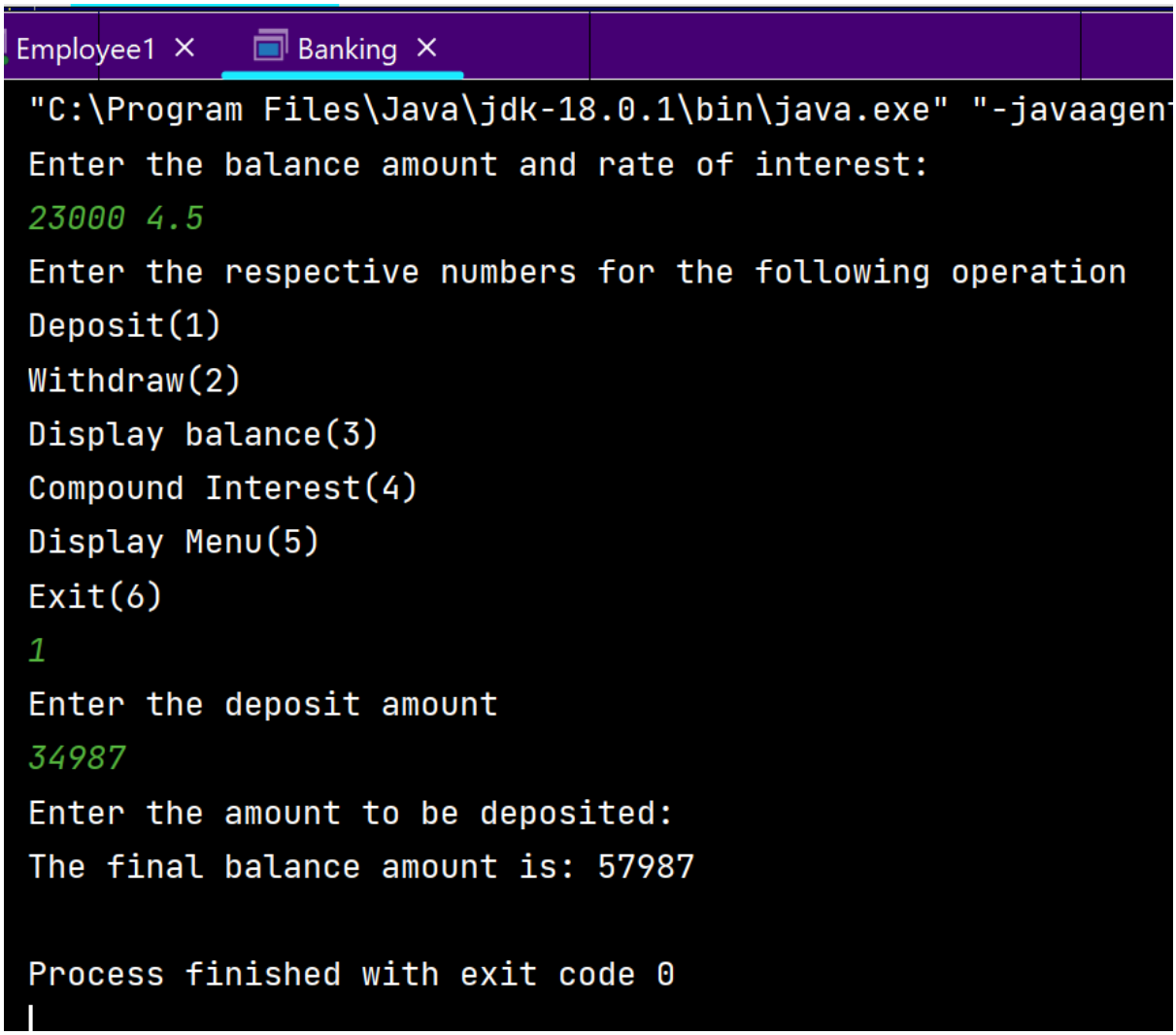
Output:

Employee1 × Banking ×

```
43000 3.4
Enter the respective numbers for the following operation
Deposit(1)
Withdraw(2)
Display balance(3)
Compound Interest(4)
Display Menu(5)
Exit(6)
4
Enter the number of years:
12
The total amount in the account is:64226.5990169012
The compound interest is:21226.5990169012

Process finished with exit code 0
```

Employee1 × Banking ×

```
"C:\Program Files\Java\jdk-18.0.1\bin\java.exe" "-javaagent
Enter the balance amount and rate of interest:
43000 3.6
Enter the respective numbers for the following operation
Deposit(1)
Withdraw(2)
Display balance(3)
Compound Interest(4)
Display Menu(5)
Exit(6)
2
Enter the withdrawal amount:
30000
The final balance amount is: 13000
```


Employee1
Banking
"C:\Program Files\Java\jdk-18.0.1\bin\java.exe" "-javaagen
Enter the balance amount and rate of interest:
23000 4.5
Enter the respective numbers for the following operation
Deposit(1)
Withdraw(2)
Display balance(3)
Compound Interest(4)
Display Menu(5)
Exit(6)
1
Enter the deposit amount
34987
Enter the amount to be deposited:
The final balance amount is: 57987
Process finished with exit code 0