

Assignment 3

Name: Yash Yadav

Q1)Using Switch Case

```
import java.util.*;
class Grading{
    public static void main(String[] args) {

        int n = 0;

        System.out.println("Student Grading Criteria ");
        System.out.println("Student grade 'A' -> 100% - 90%");
        System.out.println("Student grade 'B' -> 89% - 79%");
        System.out.println("Student grade 'C' -> 69% - 50%");
        System.out.println("Student grade 'D' -> 49% - 41%");

        System.out.println("Enter Student Marks");

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter Maths Marks:");
        int math = sc.nextInt();
        System.out.println("Enter English Marks:");
        int eng = sc.nextInt();
        System.out.println("Enter Science Marks:");
        int scie = sc.nextInt();
        System.out.println("Enter Social Science Marks:");
        int sst = sc.nextInt();
        System.out.println("Enter Language Marks:");
        int hin = sc.nextInt();
        if (math>100||eng>100||scie>100||sst>100||hin>100)
        {
            System.out.println("Invalid");
            return;
        }
        else if (math<40||eng<40||scie<40||sst<40||hin<40)
        {
            System.out.println("Fail");
            System.out.println("Better Luck Next time");
            return;
        }
    }
}
```

```
System.out.println("Student grade 'A' - 100% - 90%");
System.out.println("Student grade 'B' - 89% - 79%");
System.out.println("Student grade 'C' - 69% - 50%");
System.out.println("Student grade 'D' - 49% - 41%");

int sum = (math + eng + scie + sst + hin);

System.out.println("Total Marks = "+sum);

Double per = (sum/500.0)*100;

System.out.println("Overall Percentage =" + per);
int Flag = 0;
n = sum/50;
switch (n) {
    case 1:
    case 2:
    case 3: System.out.println("Fail");break;
    case 4: System.out.println("Student grade is D"); break;
    case 5: System.out.println("Student grade is C"); break;
    case 6:
    case 7: System.out.println("Student grade is B");break;

    case 8: break;
    case 9: System.out.println("Student grade is A");break;
    case 10: System.out.println("Student grade is A++");break;
}
System.out.println("Congragulation");
}
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java Grading.java
Student Grading Criteria
Student grade 'A' -> 100% - 90%
Student grade 'B' -> 89% - 79%
Student grade 'C' -> 69% - 50%
Student grade 'D' -> 49% - 41%
Enter Student Marks
Enter Maths Marks:
40
Enter English Marks:
56
Enter Science Marks:
78
Enter Social Science Marks:
76
Enter Language Marks:
66
Student grade 'A' - 100% - 90%
Student grade 'B' - 89% - 79%
Student grade 'C' - 69% - 50%
Student grade 'D' - 49% - 41%
Total Marks = 316
Overall Percentage =63.2
Student grade is B
Congragulation
```

Using If Else

```
1  import java.util.Scanner;
2
3  class Grading {
4      public static void main(String[] args) {
5          Scanner sc = new Scanner(System.in);
6
7          System.out.print("Enter percentage: ");
8          double per = sc.nextDouble();
9
10         if (per >= 90) {
11             System.out.println("Grade: A");
12         } else if (per >= 80) {
13             System.out.println("Grade: B");
14         } else if (per >= 70) {
15             System.out.println("Grade: C");
16         } else if (per >= 60) {
17             System.out.println("Grade: D");
18         } else {
19             System.out.println("Grade: F");
20         }
21     }
22 }
23
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java Grading2
Student Grading Criteria
Student grade 'A' -> 90% - 100%
Student grade 'B' -> 79% - 89%
Student grade 'C' -> 50% - 69%
Student grade 'D' -> 41% - 49%
Below 40% -> Fail
Enter Maths Marks:
89
Enter English Marks:
98
Enter Science Marks:
78
Enter Social Science Marks:
88
Enter Language Marks:
98
Total Marks = 451
Overall Percentage = 90.2
Student grade is A
Congratulations!
```

Q2)using Switch Case :-

```
1 import java.util.*;
2 class Electricity{
3     public static void main(String[] args) {
4         System.out.println("Electricity Bills");
5         double bill = 0;
6         Scanner sc = new Scanner(System.in);
7         System.out.println("Enter the Units");
8         int units = sc.nextInt();
9         int n = units/100;
10        switch(n){
11            case 1: bill = (5*units);
12                System.out.println("Electricity bill is "+ bill);break;
13
14            case 2:bill = (100 * 5)+((units-100) * 6);
15                System.out.println("Your units Bill is : "+bill );break;
16            case 3:
17                bill = (100 * 5)+(100* 6)+((units-200)*7);
18                System.out.println("Your units Bill is : "+bill );break;
19            default:
20                bill = (100 * 5)+(100* 6)+(100 * 7)+((units - 300)*8);
21                System.out.println("Your units Bill is "+bill );
22
23        }
24    }
25 }
26
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java Electricity
Electricity Bills
Enter the Units
200
Your units Bill is : 1100.0

D:\CDAC Hyderabad\JAVA\Assignment 03>
```

BY Using if Else:

```
1 import java.util.*;
2 class ElectricityBill{
3     public static void main(String[] args) {
4         System.out.println("Electricity Bills");
5         double bill = 1;
6         Scanner sc = new Scanner(System.in);
7         System.out.println("Enter the Units");
8         int units = sc.nextInt();
9         if (units<0) {
10             System.out.println("Invalid Values");
11         }
12         if (units==0) {
13             System.out.println("Fixed Charges");
14         }
15         if(units<=100){
16             bill = (5*units);
17         }
18         else if (units<=200) {
19             bill = (100 * 5)+((units-100) * 6);
20         }
21         else if (units<=300) {
22             bill = (100 * 5)+(100* 6)+((units-200)*7);
23         }
24         else {
25             bill = (100 * 5)+(100* 6)+(100 * 7)+((units - 300)*8);
26         }
27         System.out.println("Electricity bill is "+ bill);
28     }
29 }
30 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java ElectricityBill.java
Electricity Bills
Enter the Units
500
Electricity bill is 3400.0

D:\CDAC Hyderabad\JAVA\Assignment 03>
```

Q3)

Income tax Using Switch Case :-

```
1 import java.util.*;
2 class Incometax{
3     public static void main(String[] args) {
4         System.out.println("Income Tax");
5         System.out.println("Income <= 2,00,000 -> No tax");
6         System.out.println("2,00,001 to 5,00,000 -> 5% tax");
7         System.out.println("5,00,001 to 10,00,000 -> 20% tax");
8         System.out.println("Above 10,00,000 -> 30% tax");
9         System.out.println("Enter Your Salary");
10
11         Scanner sc = new Scanner(System.in);
12         double tax = 0;
13         int income = sc.nextInt();
14         int n = income/100000;
15         switch(n){
16             case 2: System.out.println("Your Income Tax is : "+tax);break;
17             case 3:
18
19             case 4:
20
21             case 5: tax = (income - 250000) * 0.05;
22                     System.out.println("Your Income Tax is "+tax);break;
23
24             case 6:
25
26             case 7:
27
28             case 8:
29
30             case 9:
31
32             case 10: tax = (income - 250000) * 0.05 + ((income - 500000) * 0.20);
33                     System.out.println("Your Income Tax is "+tax);break;
34
35             default:
36                 tax = (((income - 250000) * 0.05) + (income - 500000) * 0.20)) + ((income - 1000000) * 0.30);
37                 System.out.println("Your Income Tax is "+tax);
38                 break;
39         }
40     }
41 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java Incometax.java
Income Tax
Income <= 2,00,000 -> No tax
2,00,001 to 5,00,000 -> 5% tax
5,00,001 to 10,00,000 -> 20% tax
Above 10,00,000 -> 30% tax
Enter Your Salary
300000
Your Income Tax is 2500.0

D:\CDAC Hyderabad\JAVA\Assignment 03>
```

By if else

```
1  import java.util.*;
2  class IncomTax{
3      public static void main(String[] args) {
4          System.out.println("Enter Your Salary");
5          Scanner sc = new Scanner(System.in);
6          double tax = 0;
7          double income = sc.nextDouble();
8          System.out.println("Your income is : "+income);
9          if (income<=250000) {
10             System.out.println("Tax is : ");
11         }
12         else if (income<=500000) {
13             tax = (income - 250000) * 0.05;
14         }
15         else if (income<=1000000) {
16             tax = (((income - 250000) * 0.05) + (income - 500000) ) * 0.02;
17         }
18         else if (income>1000000) {
19             tax = (((((income - 250000) * 0.05) + (income - 500000) * 0.02)) + (income - 1000000) * 0.03;
20         }
21
22         System.out.println("Your Tax "+tax);
23     }
24 }
25 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 03>java IncomTax
Enter Your Salary
300000
Your income is : 300000.0
Your Tax 2500.0

D:\CDAC Hyderabad\JAVA\Assignment 03>
```

