Assignment 3

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Q1)Using Switch Case

```java
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;
            }
```

```java
        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 Hydrabad\JAVA\Assignment 03>java Grading.jav
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

```java
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 Hydrabad\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 :-

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

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

BY Using if Else:

```java
import java.util.*;
class ElectricityBill{
    public static void main(String[] args) {
        System.out.println("Electricity Bills");
        double bill = 1;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the Units");
        int units = sc.nextInt();
        if (units<0) {
            System.out.println("Invalid Values");
        }
        if (units==0) {
            System.out.println("Fixed Charges");
        }
        if(units<=100){
            bill = (5*units);
            }
                else if (units<=200) {
                    bill = (100 * 5)+((units-100) * 6);
                }
                else if (units<=300) {
                    bill = (100 * 5)+(100* 6)+((units-200)*7);
                }
                else  {
                    bill = (100 * 5)+(100* 6)+(100 * 7)+((units - 300)*8);
                }
                System.out.println("Electricity bill is "+ bill);

    }
}
```

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

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

Q3)

Income tax Using Switch Case :-

```java
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 Hydrabad\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 Hydrabad\JAVA\Assignment 03>
```

By if else

```java
import java.util.*;
class IncomTax{
    public static void main(String[] args) {
        System.out.println("Enter Your Salary");
        Scanner sc = new Scanner(System.in);
        double tax = 0;
        double income = sc.nextDouble();
        System.out.println("Your income is : "+income);
        if (income<=250000) {
            System.out.println("Tax is : ");
        }
        else if (income<=500000) {
            tax = (income - 250000) * 0.05;
        }
        else if (income<=1000000) {
            tax =(((income - 250000) * 0.05) + (income - 500000) )* 0.20;
        }
        else if (income>1000000) {
            tax = ((((income - 250000) * 0.05) + (income - 500000) * 0.20)) + (income - 1000000) * 0.20;
        }

        System.out.println("Your Tax "+tax);

    }
}
```

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

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