

# Assignment 3

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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
29            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         System.out.println("Your Tax "+tax);
22     }
23 }
24 }
```

```
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>
```

