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Experiment name-Implement java programs based on if else statements and switch case.

Switch Statements in Java

The **switch statement in Java** is a multi-way branch statement. In simple words, the Java switch statement executes one statement from multiple conditions.

Syntax
```
switch(expression)
{
 case value1 :
   // Statements
   break; // break is optional

 case value2 :
   // Statements
   break; // break is optional
   ....
   ....
   ....
  default :
   // default Statement
}
```

If-Else in Java

If- else together represents the set of Conditional statements in Java that are executed according to the condition which is true.
Syntax of if-else Statement
```
if (condition)
{
   // Executes this block if
   // condition is true
}
else
{
   // Executes this block if
   // condition is false
}
```

1. A company decided to give bonus of 10% (of salary) to employee if his/her year of service is more than 5 years. Implement a Java program to ask user for their salary and year of service and print the net bonus amount and the total salary adding bonus.

Input-
import java.util.Scanner;

public class Stud6
{
   public static void main(String[] args)

```java
{
    Scanner scanner = new Scanner(System.in);
    System.out.print("Enter your salary: ");
    double salary = scanner.nextDouble();

    System.out.print("Enter your years of service: ");
    int yearsOfService = scanner.nextInt();

    double bonusPercentage = 0.10;
    double bonus = 0;

    if (yearsOfService > 5)
    {
        bonus = salary * bonusPercentage;
    }

    double totalSalary = salary + bonus;

    System.out.println("Net Bonus Amount: " + bonus);
    System.out.println("Total Salary (including bonus): " + totalSalary);
    }
}
```

Output-

```
D:\class work>javac Stud6.java

D:\class work>java Stud6.java
Enter your salary: 5000
Enter your years of service: 6
Net Bonus Amount: 500.0
Total Salary (including bonus): 5500.0

D:\class work>java Stud6.java
Enter your salary: 5000
Enter your years of service: 3
Net Bonus Amount: 0.0
Total Salary (including bonus): 5000.0
```

2. A school has following rules for grading system: Below 25 – F, 25 to 45 – E, 45 to 50 – D, 50 to 60 – C, 60 to 80 – B, Above 80 - A Implement a Java program to ask user to enter marks and print the corresponding grade.

Input-

```java
import java.util.Scanner;
class Stud7
{
  public static void main(String args[])
  {
    int marks;
    System.out.println("Enter marks obtained by student");
    Scanner aa=new Scanner(System.in);
    marks=aa.nextInt();
    if(marks>=80)
    {
      System.out.println("A");
    }
```

```java
            else if(marks>=60&&marks<80)
             {
              System.out.println("B");
             }
            else if(marks>=50&&marks<60)
             {
              System.out.println("C");
             }
             else if(marks>=45&&marks<50)
             {
              System.out.println("D");
             }
             else if(marks>=25&&marks<45)
             {
              System.out.println("E");
             }
            else
             {
              System.out.println("F")
             }

          }
         }
```

Output-

```
D:\class work>javac Std7.java

D:\class work>java Std7.java
Enter marks obtained by student
90
A

D:\class work>java Std7.java
Enter marks obtained by student
50
C
```

3. **Program to check Vowel or Consonant:**

Input-

```java
public class Example {
public static void main(String[] args) {
    char ch='O';
    switch(ch)
    {
      case 'a':
        System.out.println("Vowel");
        break;
```

```java
        case 'e':
            System.out.println("Vowel");
            break;
        case 'i':
            System.out.println("Vowel");
            break;
        case 'o':
            System.out.println("Vowel");
            break;
        case 'u':
            System.out.println("Vowel");
            break;
        case 'A':
            System.out.println("Vowel");
            break;
        case 'E':
            System.out.println("Vowel");
            break;
        case 'I':
            System.out.println("Vowel");
            break;
        case 'O':
            System.out.println("Vowel");
            break;
        case 'U':
            System.out.println("Vowel");
            break;
        default:
            System.out.println("Consonant");
    }
}
}
```

Output-

```
C:\Users\Vaishnavi\Desktop\v\classwork>javac Example.java

C:\Users\Vaishnavi\Desktop\v\classwork>java Example
Vowel
```