Practical -2 Basic Java Programs

- **The if Statement**

if(condition) statement;

```
if(condition){
      //code if condition is true
}else{
//code if condition is false
}

if(condition1){

//code to be executed if condition1is true
}else if(condition2){
//code to be executed if condition2 is true
   }
 else if(condition3){
//code to be executed if condition3 is true
}
else{//code to be executed if all the conditions are false
}
if(condition){
//codeto be executed
if(condition){
//code to beexecuted
}
}

public class IfElseIfExample{
public static void main(String[] args)
{ int marks=65;
if(marks<50){
 System.out.println("fail");
}
else if(marks>=50 && marks<60){
  System.out.println("D grade");
}
else if(marks>=60 && marks<70){
 System.out.println("C grade");
```

```java
}
else if(marks>=70 && marks<80){
    System.out.println("B grade");
}
else if(marks>=80 && marks<90){
  System.out.println("A grade");
}else if(marks>=90 && marks<100){
 System.out.println("A+grade");
}else
{  System.out.println("Invalid!");
}
}
}
```

The for Loop

It provide a way to repeatedly execute some task
for(initialization; condition; iteration) { statement };

```java
Class ForTest
{
  public static void main (String arg[])
   {  int x;
      for (x=0;x<10;x++)
      { System.out.println(x); }
   }
}
```

Taking input from the user from Scanner class

Scanner class in Java is found in the java.util package.
Java provides various ways to read input from the keyboard, the java.util.Scanner class is one of them.
The Java Scanner class breaks the input into tokens using a delimiter which is whitespace by default. It provides many methods to read and parse various primitive values.
The Java Scanner class provides nextXXX() methods to return the type of value such as nextInt(), nextByte(), nextShort(), next(), nextLine(), nextDouble(), nextFloat(), nextBoolean(), etc.

```java
import java.util.*;
public class ScannerExample
{
   public static void main(String args[])
 {
    Scanner in = new Scanner(System.in);
    System.out.print("Enter your name: ");
```

```
     String name = in.nextLine();
      System.out.println("Name is: " + name);
      System.out.print("Enter your number: ");
       int n =  in.nextInt();
      System.out.println("Number is: " + name);
   }
}
```

Size of a datatype
e.g   **Byte.SIZE   , Integer.SIZE , Float.SIZE**

Array Declaration in java

- Signle Dimentional array
  - syntax
  - type var_name[]   or type[] var_name;

  String[] myString0; // without size
  String[] myString1=new String[4]; //with size

  //first method
  String[] arr = new String[]{"Apple","Banana","Orange"};

  //second method

  String[] arr1={"Apple","Banana","Orange"};

  //third method

  String[] arr2=new String[3];

  arr2[0]="Apple";

  arr2[1]="Banana";

  arr2[2]="Orange";

  int[] myNum = {10, 20, 30, 40};


```java
import java.util.*;
class Araydemo {
    public static void main(String[] args)
    {
        // declares an Array of integers.
        int[] arr;
        // allocating memory for 5 integers.
        arr = new int[5];
         // initialize the first elements of the array
```

```java
        Scanner in = new Scanner(System.in);
        for(int i = 0; i < arr.length; i++)
         {arr[i] =  in.nextInt();
         }   // accessing the elements of the specified array
         for (int i = 0; i < arr.length; i++)
             System.out.println("Element" + arr[i]);


        String[] arr1 = new String[]{"Apple","Banana","Orange"};

          for (int i = 0; i < arr1.length; i++)
             System.out.println("Element" + arr1[i]);



        }
}
```

Excercise

1. Write a Java program to print the multiplication table of the given number from the command line argument

Hint :   int i=Integer.parseInt("200"); convert string to integer. 200 is string which is converted into integer 200.

2. Write a Java program to calculate the Sum of Natural Numbers passed in command line argurments

3. . Write a Java program to check leap year. Take input from user

4. Write a Java program to check whether a number is Prime or not.Take input from user.

5. Write a Java program to find Factorial of a number.Take input from the command line argument.

6 . Write a Java program to display Fibonacci series.Take input N from user.

7. Write a java program which takes three numbers and find maximum from three.

8. Write a Java program to Reverse a Number. (Use Iterative approach)

9. Write a Java program to print the following pattern based on user input.

<div align="center">

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

</div>

10. Write a java program finds the total sum of interger array.

11 Write a java program which search given number from the array and returns its index value if it present it into the array. o.w display message "number not found".

12   Write a java program which takes the array from the user. And make total of two consecutive elements and stored it into output array.

Case : int arr1 = {1,2,3,4} then output : outarray={3,7}

case : int arr1 = { 1,2,3} then output   : outarray={3,3}

case : int arr1 = {1,2,3,4,5,6} then output : outarray= {3,7,11}

case : int arr1 = {1,2,3,4,5} then output : outarray= {3,7,5}