

Subject Code: 203105241

B.Tech- 2nd Year 4th Semester

PRACTICAL:-1

Aim:- Write a program to display Hello World message in console window.

Output:-

```
PS C:\Users\Dhruvin Malani> cd "d:\Java\" ; if ($?) { javac fifteenpro.java } ; if ($?) { java fifteenpro } Hello World
PS D:\Java>
```



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PRACTICAL:-2

Aim:- Write a program to perform arithmetic and bitwise operations in a single source program without object creation.

```
Algorithm:-1|Start
        2] Assign Values to Variables
        3]Perform Arithmetic Operations
     4]Perform Bitwise Operations
     5]End
Code:-
     public class Operation
        public static void main(String[] args)
          int x=29;
          int y=13;
          System.out.println("x+y:"+(x+y));
          System.out.println("x-y:"+(x-y));
          System.out.println("x*y:"+(x*y));
          System.out.println("x&y:"+(x&y));
          System.out.println("x|y:"+(x|y));
          System.out.println("x^y:"+(x^y));
       }
      }
```

Output:-



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PRACTICAL:-3

Aim:- Write a program to perform arithmetic and bitwise operations by creating individual methods and classes than create an object to execute the individual methods of each operation.

Algorithm:-1]Star 2]Create class Arithmetic 3]Define Method 4]Create class Bitwise 5]Define Method 6]Create Objects of Both Class 7]Take User Input 8]Call Methods 9]End

Code:-

```
import java.util.Scanner;
class Arithmetic
{
    public void Arithmetic(int a,int b)
    {
        System.out.println("a+b:"+(a+b));
        System.out.println("a-b:"+(a-b));
        System.out.println("a*b:"+(a*b));
    }
} class Bitwise
{
    public void Bitwise(int a,int b)
    {
        System.out.println("a&b:"+(a&b));
        System.out.println("a|b:"+(a|b));
        System.out.println("a'b:"+(a'b));
    }
}
```



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```
public class Operators
{
   public static void main(String[] args)
   {
      int a,b;
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter 1st Value :");
      a = sc.nextInt();
      System.out.print("Enter 2nd Value :");
      b = sc.nextInt();
      Arithmetic obj = new Arithmetic();
      Bitwise obj1 = new Bitwise();
      obj.Arithmetic(a,b);
      obj1.Bitwise(a,b);
   }
}
```

Output:-

```
PS D:\Java> cd "d:\Java\" ; if ($?) { javac fifteenpro.java } ; if ($?) { java fifteenpro }
Enter 1st Value :12
Enter 2nd Value :45
a+b :57
a-b :-33
a*b :540
a&b :12
a|b :45
a^b :33
```



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PRACTICAL:-4

Aim:- Write a java program to display the employee details using Scanner class.

```
Algorithm:-1]Start
    2]Take User Input Details of Employee
    3]Print all Details
    4]End
Code:-
      import java.util.Scanner;
      public class Employee
        public static void main(String[] args)
          int emp_id,sal;
          String name, city;
          Scanner sc = new Scanner(System.in);
          System.out.print("Enter Id :");
          emp id = sc.nextInt();
          System.out.print("Enter Name:");
          name = sc.next();
          System.out.print("Enter Salary :");
          sal = sc.nextInt();
          System.out.print("Enter City:");
          city = sc.next();
          System.out.println("Emp_Id:"+emp_id);
          System.out.println("Name:"+name);
          System.out.println("Salary:"+sal);
          System.out.println("City:"+city);
        }
      }
```

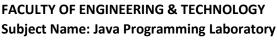
Output:-



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```
PS D:\Java> cd "d:\Java\" ; if ($?) { javac fifteenpro.java } ; if ($?) { java fifteenpro }
Enter Id :131
Enter Name :DHRUVIN
Enter Salary :2000000
Enter City :SURAT
Emp_Id :131
Name :DHRUVIN
Salary :2000000
City :SURAT
```



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PRACTICAL:-5

Aim:- Write a Java program that prints all real solutions to the quadratic equation ax2+bx+c=0. Read in a, b, c and use the quadratic formula. If the discriminate b^2 -4ac is negative, display a message stating that there are no real solutions?

```
Algorithm:-1]Start
     2]Initialise Variables
         3]Check Condition & write Formula
     4]Print Answer
     5]End
Code:-
      import java.util.Scanner;
      public class RootsCalc
        public static void main(String[] args)
          float a, b, c, d;
          double r1, r2;
          Scanner sc = new Scanner(System.in);
          System.out.print("Enter x^2 Coefficient: ");
          a = sc.nextFloat();
          System.out.print("Enter x Coefficient: ");
          b = sc.nextFloat();
          System.out.print("Enter Constant: ");
          c = sc.nextFloat();
          d = (b * b) - (4 * a * c);
          if (d < 0)
          {
            System.out.println("No Roots");
          else
            r1 = (-b + Math.sqrt(d)) / (2 * a);
            r2 = (-b - Math.sqrt(d)) / (2 * a);
```



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```
System.out.println("Roots are " + r1 + " & " + r2);
}
}
```

Output:-

```
PS D:\Java> cd "d:\Java\" ; if ($?) { javac fifteenpro.java } ; if ($?) { java fifteenpro }

Enter x^2 Coefficient: 2

Enter x Coefficient: 2

Enter Constant: 2

No Roots
```



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PRACTICAL:- 6

Aim: The Fibonacci sequence is defined by the following rule. The first 2 values in the sequence are 1, 1. Every subsequent value is the sum of the 2 values preceding it. Write a Java program that uses both recursive and nonrecursive functions to print the nth value of the Fibonacci sequence?

Code:

```
import java.util.Scanner;
class Fibonnaci_series
{
  public static void main(String arg[])
{
  int i,n,n1 = 0,n2 = 1,sum = 0;
  Scanner sc = new Scanner(System.in);
  n = sc.nextInt();
  for(i = 0;i<n;i++)
  {
    System.out.println(n1);
    sum = n1 + n2;
    n1 = n2;
    n2 = sum;
  }
}
</pre>
```



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Output:

```
PS C:\Users\Dhruvin Malani> cd "d:\Java\" ; if ($?) { javac fifteenpro.java } ; if ($?) { java fifteenpro }

10

1

1

2

3

5

8

13

21

34
```