Lab Task 4

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Q1)

Compare C,C++,Python, Octave, Java, VB,COBOL,FORTRAN, and 3 more latest Languages (from your

choice)

Language	Original Purpose	Imperative	Object-oriented	Functional	Procedural	Generic	Reflective	Event-Driven	Other Paradigms	Standardized?
C	Application, system, general purpose, low-level operations	Yes	No	No	Yes	No	No	No		Yes 1989, ANSI C89
C++	Application, system	Yes	Yes	Yes	Yes	Yes	No	No		Yes 1998, ISO/IEC 2003, ISO/IEC

Python	Application, general, web, scripting, AI, scientific computing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Aspect-oriented	De facto standard via Python Enhancement Proposals (PEPs)
Java	Application, business, client-side, general, mobile development, server-side, web	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Concurrent	De facto standard via Java Language Specification
VB	Application, RAD, education, business, general, office automation	Yes	Yes	No	No	Yes	No	Yes	Component-oriented	No

COBOL	Application, business	Yes	Yes	No	Yes	No	No	No		Yes 1968 ANSI X3.23, 1974, 1985; ISO/IEC
FORTRAN	Application, numerical computing	Yes	Yes	Yes	Yes	Yes	No	No	Array-based, vectorized, concurrent	Yes 1966, ANSI 66, ANSI 77, MIL-STD-1753
Perl	Application, scripting, text processing, Web	Yes	Yes	Yes	Yes	Yes	Yes	No		No
Swift	Application, general	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Concurrent, declarative, protocol-oriented	No
JavaScript	Client-side, server-side,web	Yes	Yes	Yes	Yes	No	Yes	Yes	Prototype-based	Yes 1997-2021, ECMA-262

Q2)

a)

C

```
#include <stdio.h>
int main()
{
   printf("Hallow World ---BINGI ADHITYA RAJESH");
}
```

C++

```
#include <iostream>
using namespace std;

int main()
{
   cout << "Hallow World ---BINGI ADHITYA RAJESH";
   return 0;
}
```

Python

```
print("Hallow World ---BINGI ADHITYA RAJESH")
```

Octave

```
disp('Hallow world --- BINGI ADHITYA RAJESH')
```

Java

```
import java.util.*;


public class Main {
   public static void main(String[] args) {
      System.out.println("Hallow World ---BINGI ADHITYA RAJESH");
   }
}
```

VB

```
Public Module Program
        Public Sub Main(args() As string)
                Console.WriteLine("Hallow World ---BINGI ADHITYA RAJESH")
        End Sub
End Module
```

b)

C

```
#include <stdio.h>
int main() {
   int number1, number2, sum;
   printf("Enter two integers: ");
   scanf("%d %d", &number1, &number2);
   // calculating sum
```

```
    sum = number1 + number2;
    printf("%d + %d = %d", number1, number2, sum);
    return 0;
}
```

C++

```
#include<iostream>
using namespace std;

int main()
{
    int num1, num2, add;
    cout<<"Enter Two Numbers: ";
    cin>>num1>>num2;
    add = num1+num2;
    cout<<"\nResult = "<<add;
    cout<<endl;
    return 0;
}
```

Python

```
# Store input numbers
num1 = input('Enter first number: ')
```

```
num2 = input('Enter second number: ')

# Add two numbers
sum = float(num1) + float(num2)

# Display the sum
print('The sum of {0} and {1} is {2}'.format(num1, num2, sum))
```

Octave

Java

```
public class SumOfNumbers1
{
public static void main(String args[])
{
int n1 = 225, n2 = 115, sum;
sum = n1 + n2;
System.out.println("The sum of numbers is: "+sum);
}
}
```

VB

```
Module HelloWorld
```

```
        Sub Main()
        Dim firstNum,seconNum,sum As Integer
Console.WriteLine("enter first number:")
firstNum=Console.ReadLine()
Console.WriteLine(" enter second number:")
seconNum =Console.ReadLine()
sum = firstNum + seconNum
Console.WriteLine("the sum is:" & sum)
Console.ReadLine()


        End Sub
End Module
```

c)

C

```
#include <stdio.h>
int main() {
   int base, exp;
   long double result = 1.0;
   printf("Enter a base number: \n");
   scanf("%d", &base);
   printf("Enter an exponent: \n");
```

```
    scanf("%d", &exp);

    while (exp != 0) {
        result *= base;
        --exp;
    }
    printf("Answer = %.0Lf", result);
    return 0;
}
```

C++

```
#include <iostream>
using namespace std;

int main()
{
    int exponent;
    float base, result = 1;

    cout << "Enter base and exponent respectively:  \n";
    cin >> base >> exponent;

    cout << base << "^" << exponent << " = ";
```

```
    while (exponent != 0) {
        result *= base;
        --exponent;
    }

    cout << result;

    return 0;
}
```

Python

```
base = int(input("Enter base: \n"))
exponent = int(input("Enter exponent: \n"))

result = 1

while exponent != 0:
    result *= base
    exponent-=1

print("Answer = ", result)
```

Java

```
import java.util.*;


public class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);


        System.out.print("Enter base: \n");
        int base = input.nextInt();
        System.out.print("Enter exponent: \n");
        int exponent = input.nextInt();
        long result = 1;
    for (; exponent != 0; --exponent) {
      result *= base;
    }


    System.out.println("Answer = " + result);
  }
}
```

d)

C

```
#include<stdio.h>
int main()
{
 int n1=11,n2=11,n3,i,number;
 printf("Enter the number of elements: \n");
 scanf("%d",&number);
 printf("\n%d %d",n1,n2);//printing 0 and 1
 for(i=2;i<number;++i)//loop starts from 2 because 0 and 1 are already printed
 {
  n3=n1+n2;
  printf(" %d",n3);
  n1=n2;
  n2=n3;
 }
  return 0;
 }
```

C++

```
#include <iostream>  3
```

```
using namespace std;
int main() {
  int n1=11,n2=11,n3,i,number;
 cout<<"Enter the number of elements: \n";
 cin>>number;
 cout<<n1<<" "<<n2<<" "; //printing 0 and 1
 for(i=2;i<number;++i) //loop starts from 2 because 0 and 1 are already printed
 {
  n3=n1+n2;
  cout<<n3<<" ";
  n1=n2;
  n2=n3;
 }
   return 0;
   }
```

Python

```
# first two terms
n1, n2 = 11, 11
count = 0
nterms = int(input("Enter Number of elements: "))
print("Fibonacci sequence:")
```

```
while count < nterms:
    print(n1)
    nth = n1 + n2
    # update values
    n1 = n2
    n2 = nth
    count += 1
```

Java

```
import java.util.Scanner;
public class Fibonacci
{
   public static void main(String[] args)
   {
      int n, a = 0, b = 11, c = 11;
      Scanner s = new Scanner(System.in);
      System.out.print("Enter value of n: \n");
      n = s.nextInt();
      System.out.print("Fibonacci Series:\n");
      for(int i = 1; i <= n; i++)
      {
         a = b;
         b = c;
```

```
            c = a + b;
            System.out.print(a+" ");
        }
    }
}
```

VB

```
Imports System.Collections.Generic
Module Module1
    Sub Main()
        Dim n1 As Integer
        Dim n2 As Integer
        Dim n3 As Integer
        n1 = 11
        n2 = 11
        n3 = 1
        Console.WriteLine("{0}", n1)
        While n3 < 3
            Console.WriteLine(n2)
            n2 = n2 + n1
            n1 = n2 - n1
            n3 = n3 + 1
        End While
```

```
        Console.ReadLine()
    End Sub
End Module
```

e)

C

```
#include <stdio.h>
int main()
{
   int guest,amnt;
   float tip,total;
   printf("Enter number of guests: \n");
   scanf("%d",&guest);
   amnt = guest*110;
   if (guest>=11)
     tip = amnt*0.11;
   else
     tip = amnt*0.05;
   total = amnt + tip;
   printf("Total amount = %.2f",total);
   return 0;
}
```