**Diwali Assignment**

#include <bits/stdc++.h>

using namespace std;

**//Q 1.  Accept 5 Subject Mark’s & calculate Total marks & Average.**

int calTotalMarks(int marks[], int n)

{

    int total = 0;

    for (int i = 0; i < n; i++)

    {

        total += marks[i];

    }

    return total;

}

int calAvgOfMarks(int marks[], int n)

{

    // int total = calTotalMarks(marks, n);

    // int avg = total / n;

    // return avg;

    return calTotalMarks(marks, n) / n;

}

int main()

{

    int marks[5];

    cout << "Enter Marks of student : " << endl;

    for (int i = 0; i < 5; i++)

    {

        cout << "Enter marks of sub " << i + 1 << " :" << endl;

        cin >> marks[i];

    }

    int totalMarks = calTotalMarks(marks, 5);

    int avg = calAvgOfMarks(marks, 5);

    cout << "\nTotal Marks  : " << totalMarks << endl;

    cout << "Average of marks : " << avg << endl;

}

Output: PS D:\Fullstack-Java-FirstBit-Solutions> & 'c:\Users\bhagv\ TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter Marks of student :

Enter marks of sub 1 : 45

Enter marks of sub 2 : 67

Enter marks of sub 3 : 89

Enter marks of sub 4 : 65

Enter marks of sub 5 : 088

Total Marks : 354

Average of marks : 70

PS D:\Fullstack-Java-FirstBit-Solutions>

#include <bits/stdc++.h>

using namespace std;

**// 2. Accept Bill Amount & calculate 18% GST Amount & final Amount.**

double calculateBill(double &amount)

{

    double gstAmt = (18.0 / 100) \* amount;

    return amount + gstAmt;

}

int main()

{

    double amount = 0;

    cout << "Enter Bill Amount : ";

    cin >> amount;

    double grossBill = calculateBill(amount);

    cout << "\nTotal Bill : " << grossBill << endl;

    return 0;

}

Output:

PS D:\Fullstack-Java-FirstBit-Solutions> & 'c:\Users\bhagv\.vscode\ TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter Bill Amount : 100

Total Bill : 118

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Enter Bill Amount : 53275.783

Total Bill : 62865.4

PS D:\Fullstack-Java-FirstBit-Solutions>

#include <bits/stdc++.h>

using namespace std;

**// 3.  Swap 2(two) value’s without using third variable.**

void swapTwoNums(int &num1, int &num2)

{

    num1 = num1 + num2;

    num2 = num1 - num2;

    num1 = num1 - num2;

}

int main()

{

    int n1 = 0, n2 = 0;

    cout << "Enter Num1 : ";

    cin >> n1;

    cout << "Enter Num2 : ";

    cin >> n2;

    cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_";

    cout << "\nValue Before swap : \nNum1  = " << n1 << endl

         << "Num2 = " << n2 << endl;

    swapTwoNums(n1, n2);

    cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_";

    cout << "\nValue After swap : \nNum1  = " << n1 << endl

         << "Num2 = " << n2 << endl;

    cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_";

}

Output:

PS D:\Fullstack-Java-FirstBit-Solutions> & 'c:\Users\bhagv\.vscode\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter Num1 : 10

Enter Num2 : 20

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Value Before swap :

Num1 = 10

Num2 = 20

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Value After swap :

Num1 = 20

Num2 = 10

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PS D:\Fullstack-Java-FirstBit-Solutions>

#include <bits/stdc++.h>

using namespace std;

**// 4.  Accept value’s of (x & y) and solve following Expression.**

**// (Z=(4x2+5y3)/2xy)**

int expressionFormula(double x, double y)

{

    // double Z = 0;

    double p1 = (4 \* (x \* x)) + (5 \* (y \* y \* y));

    double p3 = 2 \* (x \* y);

    return p1 / p3;

    // return Z;

    // return ((4 \* x \* x) + (5 \* y \* y \* y)) / 2 \* (x \* y);

}

int main()

{

    double x, y;

    cout << "Enter Values for X and Y : ";

    cin >> x;

    cout << ":";

    cin >> y;

    double result = expressionFormula(x, y);

    cout << "\nResult Of Expression : (Z=(4x2+5y3)/2xy) with values X = " << x << " and Y = " << y << " is : " << result << endl;

    return 0;

}

Output: PS D:\Fullstack-Java-FirstBit-Solutions> & 'c:\Users\bhagv\.vscode\..\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter Values for X and Y : 5

:2

Result Of Expression : (Z=(4x2+5y3)/2xy) with values X = 5 and Y = 2 is : 7

PS D:\Fullstack-Java-FirstBit-Solutions> & 'c:\Users\bhagv\.vscode\.. \TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Enter Values for X and Y : 450

:32

Result Of Expression : (Z=(4x2+5y3)/2xy) with values X = 450 and Y = 32 is : 33

PS D:\Fullstack-Java-FirstBit-Solutions>