**SUMMER LAB PAPER**

**pf (c++)**

**NAME #### MUHAMMAD USAMA**

**ID NO #### 16742**

**SUBJECT ####**

**(SUMMER) PROGRAMMING FUNDAMINTALS (C++)**

**TEACHER NAME ####**

**PROF. DR. FAZAL-E-MALIK**

**DEPT #### (BSCS) 2ND SEMESTER**

**DATE #### 01/10/2020**

**IQRA NATIONAL UNIVERSITY (PESHAWAR)**

**HAYATABAD PHASE || |.**

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**Q NO: 1::**

**Read A, B and C representing the three sides of a triangle. Write a program to find out its area the formula is given below:**

$$Area=\sqrt{S(S-A)(S-B)(S-C)}$$

**Where S=** $\frac{A+B+C}{2}$**.**

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**ANS::**

**PROGRAM CODE::**

#include<iostream>

using namespace std;

int main()

 {

 int a, b, c, area, s;

 cout<<"Enter the value of the three sides of triangle: \n";

 cin>>a >>b >>c;

 s = (a + b + c)/2;

 area = (s \* (s-a) \* (s-b) \* (s-c));

 cout<<"The Area of the triangle is : \n\t"<<area;

 return 0;

 }

**OUTPUT::**

Enter the value of the three sides of triangle:

3

4

5

The Area of the triangle is :

 36

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Process exited after 13.72 seconds with return value 0

Press any key to continue . . .

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**Q NO: 2::**

**Write a C++ program to get marks obtained by a student in percentage P and then find the division according to the below rules:**

**If Percentage P is above or equal to 60 then display…………..1st Division.**

**If Percentage P is between 50 & 59 then display…………………2nd Division.**

**If Percentage P is between 40 & 49 then display….……………3rd Division.**

**If Percentage P is less than 40 then display………………………Fail.**

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**ANS::**

**PROGRAM CODE::**

 //marks percentage of the student:

#include<iostream>

using namespace std;

int main()

 {

 int sub1, sub2, sub3, sub4, sub5, percentage;

 cout<<"Enter marks of five subjects : \n";

 cin>>sub1>>sub2>>sub3>>sub4>>sub5;

 percentage=(sub1+sub2+sub3+sub4+sub5)/5;

 if(percentage >= 60)

 cout<<"Your percentage is = \n "<<percentage<<"\n Congrats! You get 1st division";

 else if(percentage >=50 && percentage < 59 )

 cout<<"Your percentage is = \n "<<percentage<<"\n You get 2nd division";

 else if(percentage >= 40 && percentage < 49)

 cout<<"Your percentage is = \n "<<percentage<<"\n You get 3rd division";

 else

 cout<<"Your percentage is = \n "<<percentage<<"\n Sorry! You are Fail" ;

 return 0;

 }

**OUTPUT::**

Enter marks of five subjects :

56

78

89

34

56

Your percentage is =

 62

 Congrats! You get 1st division.

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Process exited after 11.97 seconds with return value 0

Press any key to continue . . .

**//ANOTHER SIMPLE OUTPUT:**

Enter marks of five subjects :

34

58

58

56

70

Your percentage is =

 55

 You get 2nd division.

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Process exited after 18 seconds with return value 0

Press any key to continue . . .

**//ANOTHER SIMPLE OUTPUT:**

Enter marks of five subjects :

45

34

23

67

45

Your percentage is =

 42

 You get 3rd division.

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Process exited after 5.631 seconds with return value 0

Press any key to continue . . .

**//ANOTHER SIMPLE OUTPUT:**

Enter marks of five subjects :

23

34

23

23

40

Your percentage is =

 28

 Sorry! You are Fail.

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Process exited after 6.447 seconds with return value 0

Press any key to continue . . .

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**Q NO: 3::**

**Write a C++ program to convert 5 feet to the equivalent number of (a) Inches (b) Yards. Where 1foot =12 Inches and 1 yard=3 feet).**

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**ANS::**

**PROGRAM CODE::**

#include <iostream>

using namespace std;

int main()

 {

 int feet, inches ;

 float yards;

 cout<<"Enter the value of feet: \n\t";

 cin>>feet;

 //converting into inches:

 inches=feet\*12;

 //converting into yards:

 feet=yards\*3;

 cout<<"Total inches will be:\n\t"<<inches<<" inches.";

 cout<<"\ntotal yards will be :\n\t"<<yards<<" yards.";

 return 0;

 }

**OUTPUT::**

Enter the value of feet:

 5

Total inches will be:

 60 inches.

total yards will be :

 1.4013e-045 yards.

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Process exited after 1.122 seconds with return value 0

Press any key to continue . . .

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**Q NO: 4::**

**Write a C++ program to find the sum of the following series:**

**2+4+6+8+10.**

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**ANS::**

**PROGRAM CODE::**

 // SUM OF EVEN SEREIS FROM 1 TO 10: (2+4+6+8+10):::

#include <iostream>

using namespace std;

int main()

 {

 int i, n, sum = 0 ;

 cout << "Enter the value that you want to Print the sum of EVEN SERIES till : \n\t";

 //Enter the value to find sum:

 cin >> n ;

 for ( i = 1; i <= n; i++ )

 {

 // Check for even or not.

 if ( i % 2 == 0)

 {

 sum += i;

 }

 }

 cout << endl << "The Sum of EVEN SERIES from 1 to " << n << " is : \n\t" << sum;

 return 0;

 }

**OUTPUT::**

Enter the value that you want to Print the sum of EVEN SERIES till :

 10

The Sum of EVEN SERIES from 1 to 10 is :

 30

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Process exited after 3.808 seconds with return value 0

Press any key to continue . . .

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**Q NO: 5::**

**Write a C++ program to input Hours Worked and Hour Rate of an Employee. Calculate and display the Gross-Pay, Tax and Net-Pay; where**

**Gross-Pay=Hour-Worked\*Hour-ate**

**Tax=10% of Gross-Pay**

**Net-Pay=Gross-Pay - Tax.**

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**ANS::**

**PROGRAM CODE::**

#include <iostream>

using namespace std;

int main()

 {

 int hours\_worked, hour\_rate, gross\_pay, tax, net\_pay;

 cout<<" please: Enter hours worked of the emloyee: \n\t";

 cin>>hours\_worked;

 cout<<" Please: Enter hours rate of the emloyee: \n\t";

 cin>>hour\_rate;

 gross\_pay = hours\_worked \* hour\_rate ;

 tax = gross\_pay \* 10/100;

 net\_pay = gross\_pay - tax ;

 cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*";

 cout<<"\n";

 cout<<"\n The GROSS PAY of the emloyee is = \t "<<gross\_pay;

 cout<<"\n";

 cout<<"\n The total TAX of the emloyee is = \t "<<tax;

 cout<<"\n";

 cout<<"\n The NET PAY of the emloyee is = \t"<<net\_pay;

 cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*";

 return 0;

 }

**OUTPUT::**

please: Enter hours worked of the emloyee:

 8

 Please: Enter hours rate of the emloyee:

 10

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 The GROSS PAY of the emloyee is = 80

 The total TAX of the emloyee is = 8

 The NET PAY of the emloyee is = 72

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Process exited after 13.69 seconds with return value 0

Press any key to continue . . .

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