

Name	Hooria Khan Orakzai
ID	14263
Department	BS(Software-Engineering)
Paper	Programming Fundamental (Lab)
Submitted to	Sir Fazal-e-malik

Paper :	Programming Fundamentals (Lab)	Date and Starting Time:	01/October /2020, 09:00 am
Program:	BS (CS & SE)	Uploading Date and End Time:	04/October/2020, 12:00 pm
Teacher Name:	Dr. Fazal-e-Malik	Marks	100



Iqra National University Peshawar Pakistan

Department of Computer Science

Summer Semester (Lab Paper), Final Term Exam, September 2020

Note: Attempt all Questions.

- Q.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:

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

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

Program:

```

1 #include<iostream>
2 #include<math.h>
3 #include<math.h>
4 using namespace std;
5 int main(){
6     float a,b,c,s,area;
7     cout<<"Enter three sides of triangle:";
8     cin>>a>>b>>c;
9     s = (a+b+c)/2;
10    area = sqrt(s*(s-a)*(s-b)*(s-c));
11    cout<<"Area : "<<area<<endl;
12    return 0;
13 }

```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hoori\Documents\Untitled3.exe
- Output Size: 1.83709907531738 MiB
- Compilation Time: 3.52s

Output:

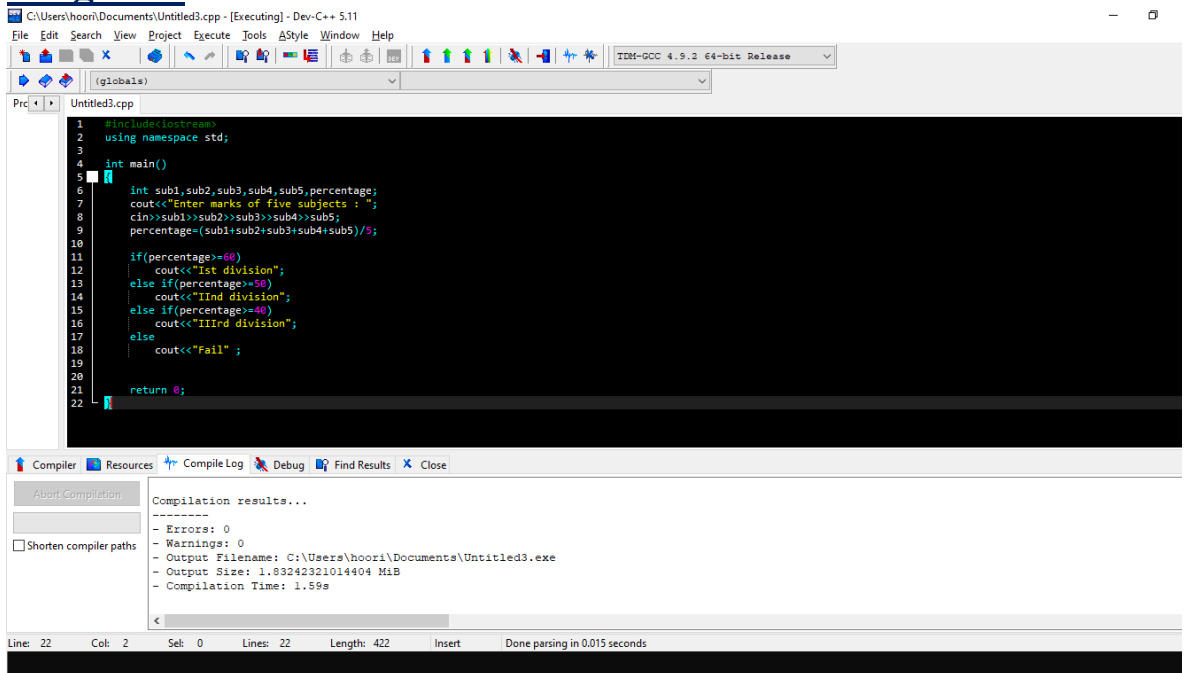
```
C:\Users\hoon\Documents\Untitled3.exe
Enter three sides of triangle:2
5
5
Area : 4.89898

-----
Process exited after 6.237 seconds with return value 0
Press any key to continue . . .
```

Q. 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.

Program:



```
C:\Users\hoon\Documents\Untitled3.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Untitled3.cpp
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     int sub1,sub2,sub3,sub4,sub5,percentage;
7     cout<<"Enter marks of five subjects : ";
8     cin>>sub1>>sub2>>sub3>>sub4>>sub5;
9     percentage=(sub1+sub2+sub3+sub4+sub5)/5;
10
11     if (percentage>=60)
12         cout<<"1st division";
13     else if (percentage>=50)
14         cout<<"2nd division";
15     else if (percentage>=40)
16         cout<<"3rd division";
17     else
18         cout<<"Fail" ;
19
20
21     return 0;
22 }
```

Compilation results...

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hoon\Documents\Untitled3.exe
- Output Size: 1.83242321014404 MiB
- Compilation Time: 1.59s
```

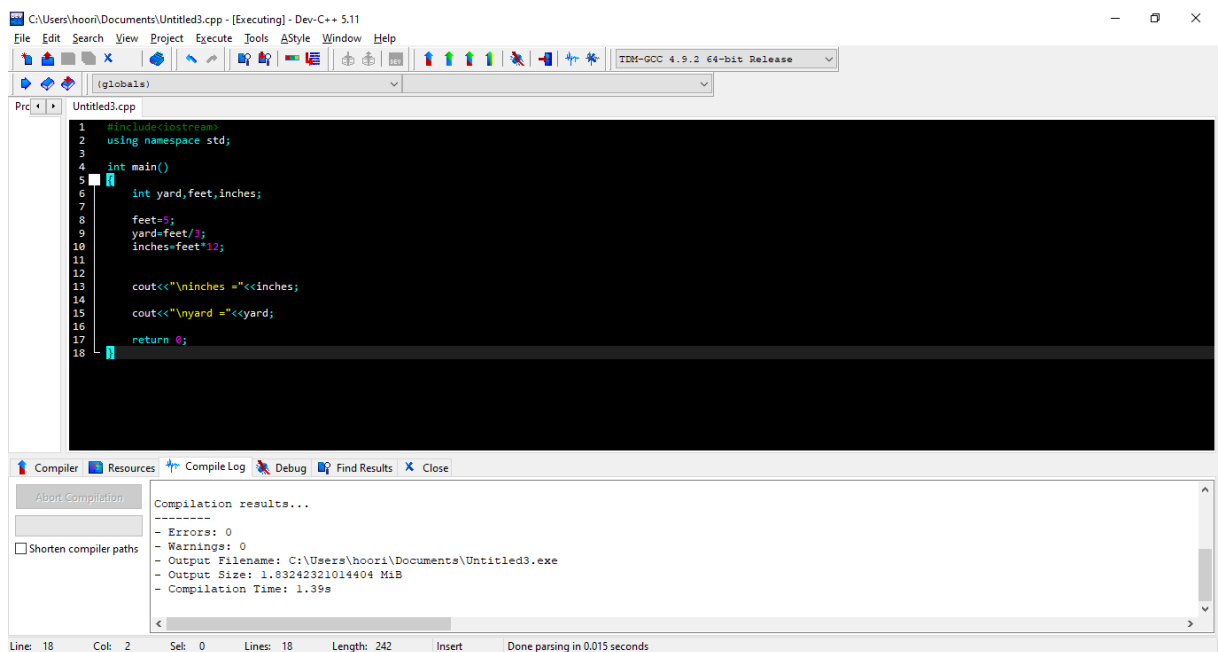
Line: 22 Col: 2 Sel: 0 Lines: 22 Length: 422 Insert Done parsing in 0.015 seconds

Output:

```
C:\Users\hoori\Documents\Untitled3.exe
Enter marks of five subjects : 75
83
78
96
44
Ist division
-----
Process exited after 24.23 seconds with return value 0
Press any key to continue . . .
```

Q. 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)

Program:



```
C:\Users\hoori\Documents\Untitled3.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Prj Untitled3.cpp
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     int yard,feet,inches;
7
8     feet=5;
9     yard=feet/3;
10    inches=feet*12;
11
12
13    cout<<"\ninches ="<<inches;
14
15    cout<<"\nyard ="<<yard;
16
17    return 0;
18 }
Compiler Resources Compile Log Debug Find Results Close
About Compilation
Shorten compiler paths
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hoori\Documents\Untitled3.exe
- Output Size: 1.83242321014404 MiB
- Compilation Time: 1.39s
Line: 18 Col: 2 Sel: 0 Lines: 18 Length: 242 Insert Done parsing in 0.015 seconds
```

Output:

```
C:\Users\hoori\Documents\Untitled3.exe
inches =60
yard =1
-----
Process exited after 0.0585 seconds with return value 0
Press any key to continue . . .
```

Q.4 Write a C++ program to find the sum of the following series:

$$2+4+6+8+10$$

Program:

```
C:\Users\hoori\Documents\Untitled3.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Prj Untitled3.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6
7     int a=2;
8     int b=4;
9     int c=6;
10    int d=8;
11    int e=10;
12    int sum;
13
14    sum=a+b+c+d+e;
15    cout << " The sum of a,b,c,d,e is "<< sum ;
16 }
```

```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hoori\Documents\Untitled3.exe
- Output Size: 1.83242321014404 MiB
- Compilation Time: 1.45s
```

Line: 16 Col: 2 Sel: 0 Lines: 16 Length: 202 Insert Done parsing in 0.016 seconds

Output:

```
C:\Users\hoori\Documents\Untitled3.exe
The sum of a,b,c,d,e is 30
-----
Process exited after 0.2182 seconds with return value 0
Press any key to continue . . .
```

Q.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

$$\text{Gross-Pay} = \text{Hour-Worked} * \text{Hour-Rate}$$

$$\text{Tax} = 10\% \text{ of Gross-Pay}$$

$$\text{Net-Pay} = \text{Gross-Pay} - \text{Tax}$$

Program:

```
C:\Users\hoori\Documents\Untitled3.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Prj Untitled3.cpp
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     int hours_worked ;
7     int hour_rate ;
8     int gross_pay ;
9     int tax ;
10    int net_pay;
11    cout<<"enter hours worked :";
12    cin>>hours_worked ;
13    cout<<"enter hour_rate :";
14    cin>>hour_rate ;
15    gross_pay=hours_worked*hour_rate;
16    tax= gross_pay*10/100;
17    net_pay=gross_pay -tax;
18    cout<<"\ngross_pay="<<gross_pay;
19    cout<<"\ntax = "<<tax;
20    cout<<"\nnet_pay = "<<net_pay;
21    return 0;
}
Compiler Resources Compile Log Debug Find Results Close
About Compilation
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\hoori\Documents\Untitled3.exe
- Output Size: 1.83242321014404 MiB
- Compilation Time: 1.97s
Line: 21 Col: 2 Sel: 0 Lines: 21 Length: 463 Insert Done parsing in 0.016 seconds
Type here to search 10:30 PM 10/3/2020
```

Output:

```
C:\Users\hoor\Documents\Untitled3.exe
enter hours worked :20
enter hour_rate :12

gross_pay=:240
tax = :24
net_pay = :216
-----
Process exited after 17.05 seconds with return value 0
Press any key to continue . . .
```

😊 *****😊

Note:

- 1. I have already uploaded a 20 Marks assignment. If a student does not upload then he/she will get Zero marks out of 20***
- 2. Write the answers in MS Word or hand written in scanned PDF Form in one documents and do not send in Zip Form***
- 3. Please write your Name and ID on top of your answer Paper otherwise you will get zero marks.***