

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA



SOFTWARE ENGINEERING

LAB 3 SOLUTION

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TASK-1

- Create a C++ Program to Generate the Following Output.

SOLUTION

The screenshot shows the Code::Blocks IDE with the file 20-SE-56 LAB3 TASK1.cpp open. The code is as follows:

```
1 #include <iostream>
2 using namespace std;
3
4 int main(){
5     cout<<"Taking Input From User...\n"<<endl;
6     int num1;
7     int num2;
8
9     cout<<"Enter 1st Number:";
10    cin>>num1;
11    cout<<"Enter 2nd Number:";
12    cin>>num2;
13
14    cout<<endl<<endl;
15    cout<<" Displaying Output ON the Screen..."<<endl<<endl;
16    cout<<"1st Number="<<num1<<endl;
17    cout<<"2nd Number="<<num2<<endl;
18    return 0;
19 }
20
21
```

The debug console at the bottom shows the following output:

```
Run: Debug in 20-SE-56 LAB3 TASK1 (compiler: GNU GCC Compiler)
Checking for existence: C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK1\bin\Debug\20-SE-56 LAB3 TASK1.exe
Set variable: PATH=.;C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin\Windows\System32;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\Saifia\AppData\Local\Programs\Python\Python39\Scripts;C:\Users\Saifia\AppData\Local\Programs\Python\Python39;E:\Scripts;E:\C:\Users\Saifia\AppData\Local\Microsoft\WindowsApps\;E:\PyCharm Community Edition 2020.2.3\bin
Executing: "C:\CodeBlocks\cb_console_runner.exe" "C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK1\bin\Debug\20-SE-56 LAB3 TASK1.exe"
Taking Input From User....
Enter 1st Number:10
Enter 2nd Number:20

Displaying Output ON the Screen....
1st Number=10
2nd Number=20

Process returned 0 (0x0)   execution time : 21.192 s
Press any key to continue.
```

TASK-2

Write a C++ program that

- takes length, width of a rectangle of specific data type from user as input
- to calculate perimeter and area of rectangle.
- display the results.

SOLUTION

The screenshot shows the Code::Blocks IDE with the following code in `20-SE-56 LAB3 TASK2.cpp`:

```

1  #include <iostream>
2  using namespace std;
3
4  int main() {
5
6      float lengthh;
7      float width;
8      float peri;
9      float area;
10
11      cout<<"Enter Length Of Rectangle:";
12      cin>>lengthh;
13      cout<<endl;
14      cout<<"Enter Width Of Rectangle:";
15      cin>>width;
16      cout<<endl;
17      peri=2*(lengthh+width);
18      cout<<"Perimeter Of Rectangle:"<<peri<<endl<<endl;
19      area=lengthh*width;
20      cout<<"Area Of Rectangle:"<<area<<endl;
21      return 0;
22

```

The 'Logs & others' window at the bottom shows the execution output:

```

Run: Debug in 20-SE-56 LAB3 TASK2 (compiler: GNU GCC Compiler)
Checking for existence: C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK2\bin\Debug\20-SE-56 LAB3 TASK2.exe
Set variable: PATH=C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin;C:\Windows\System32;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\Saifia\AppData\Local\Programs\Python\Python39\Scripts;C:\Users\Saifia\AppData\Local\Programs\Python\Python39;E:\Scripts;E:\C:\Users\Saifia\AppData\Local\Microsoft\WindowsApps;E:\PyCharm Community Edition 2020.2.3\bin
Executing: "C:\CodeBlocks\cb_console_runner.exe" "C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK2\bin\Debug\20-SE-56 LAB3 TASK2.exe"

```

The screenshot shows the output window titled `"C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK2\bin\Debug\20-SE-56 LAB3 TASK2.exe"` with the following text:

```

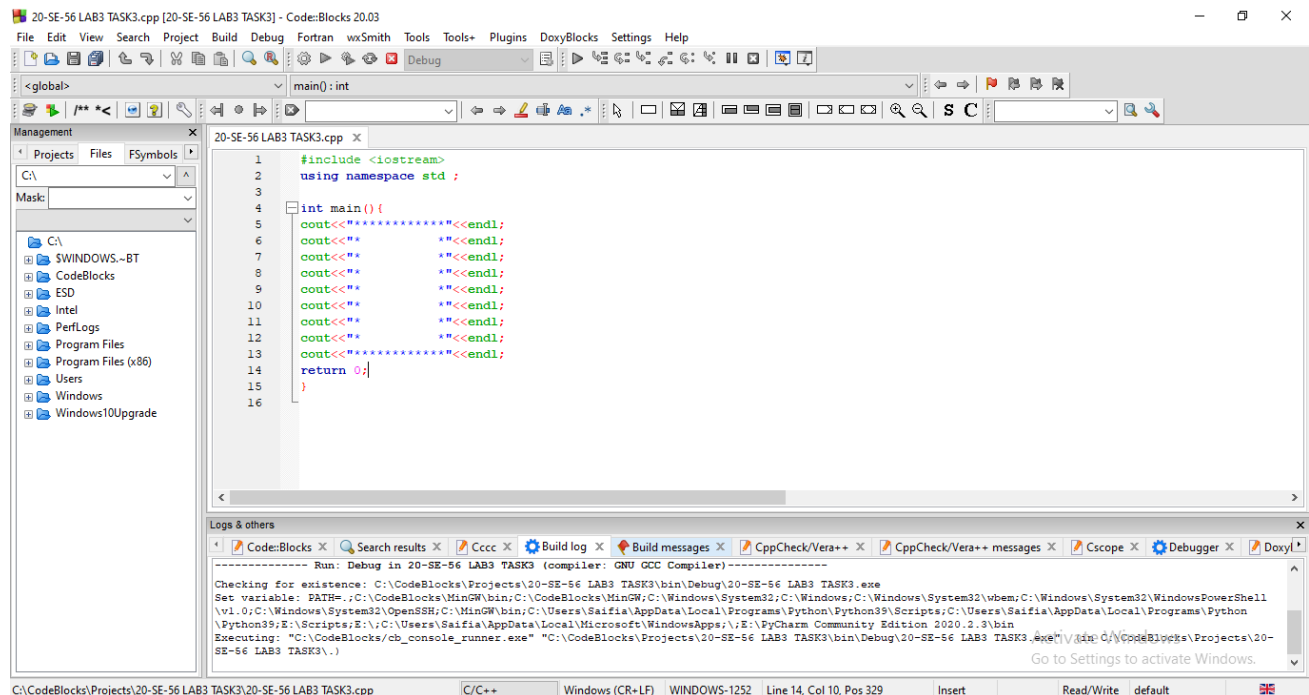
Enter Length Of Rectangle:2.6
Enter Width Of Rectangle:4.9
Perimeter Of Rectangle:15
Area Of Rectangle:12.74
Process returned 0 (0x0)   execution time : 26.611 s
Press any key to continue.

```

TASK-3

Use concepts as already taught in the class and produce output as follows.

SOLUTION



The screenshot shows the Code::Blocks IDE with the following details:

- File:** 20-SE-56 LAB3 TASK3.cpp [20-SE-56 LAB3 TASK3] - Code::Blocks 20.03
- Source Code (20-SE-56 LAB3 TASK3.cpp):**

```
1 #include <iostream>
2 using namespace std ;
3
4 int main() {
5     cout<<"*****N<<endl;
6     cout<<"          N<<endl;
7     cout<<"          N<<endl;
8     cout<<"          N<<endl;
9     cout<<"          N<<endl;
10    cout<<"          N<<endl;
11    cout<<"          N<<endl;
12    cout<<"          N<<endl;
13    cout<<"*****N<<endl;
14    return 0;
15 }
16
```
- Logs & others:**
 - Run: Debug in 20-SE-56 LAB3 TASK3 (compiler: GNU GCC Compiler)
 - Checking for existence: C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK3\bin\Debug\20-SE-56 LAB3 TASK3.exe
 - Set variable: PATH=.;C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin\Windows\System32;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\Saifia\AppData\Local\Programs\Python\Python39\Scripts;C:\Users\Saifia\AppData\Local\Programs\Python\Python39;E:\Scripts;E:\C:\Users\Saifia\AppData\Local\Microsoft\WindowsApps\;E:\PyCharm Community Edition 2020.2.3\bin
 - Executing: "C:\CodeBlocks\cb_console_runner.exe" "C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK3\bin\Debug\20-SE-56 LAB3 TASK3.exe" (in: C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK3\)



The screenshot shows the command prompt window titled "C:\CodeBlocks\Projects\20-SE-56 LAB3 TASK3\bin\Debug\20-SE-56 LAB3 TASK3.exe" with the following output:

```
*****
*           *
*           *
*           *
*           *
*           *
*           *
*           *
*****

Process returned 0 (0x0)   execution time : 0.094 s
Press any key to continue.
```