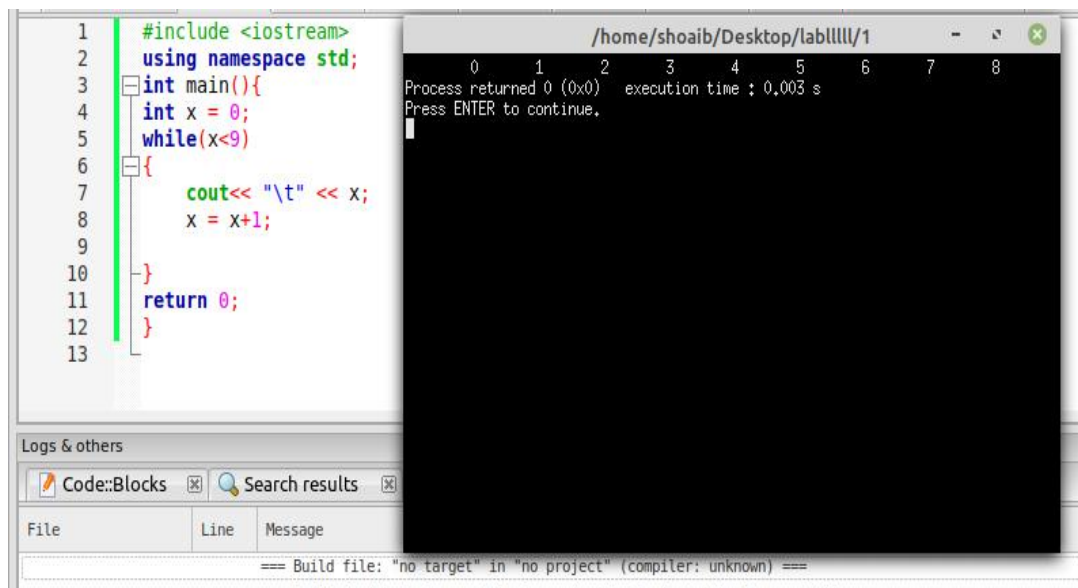


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Section:BS-CS(2B)

Task 01



```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int x = 0;
5     while(x<9)
6     {
7         cout<< "\\t" << x;
8         x = x+1;
9     }
10    return 0;
11 }
12 }
13
```

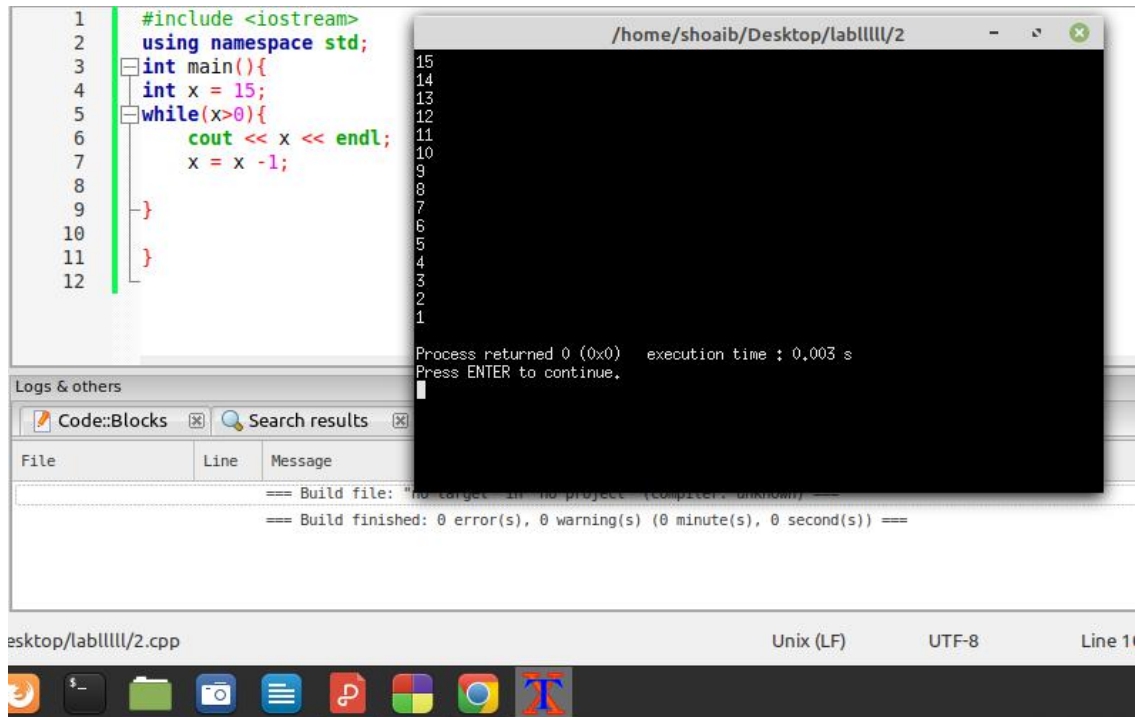
Terminal output:

```
/home/shoaib/Desktop/lablllll/1
0 1 2 3 4 5 6 7 8
Process returned 0 (0x0) execution time : 0.003 s
Press ENTER to continue.
```

Build output:

```
=== Build file: "no target" in "no project" (compiler: unknown) ===
=== Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Task 02



```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int x = 15;
5     while(x>0){
6         cout << x << endl;
7         x = x -1;
8     }
9 }
10 }
11 }
12 }
```

Terminal output:

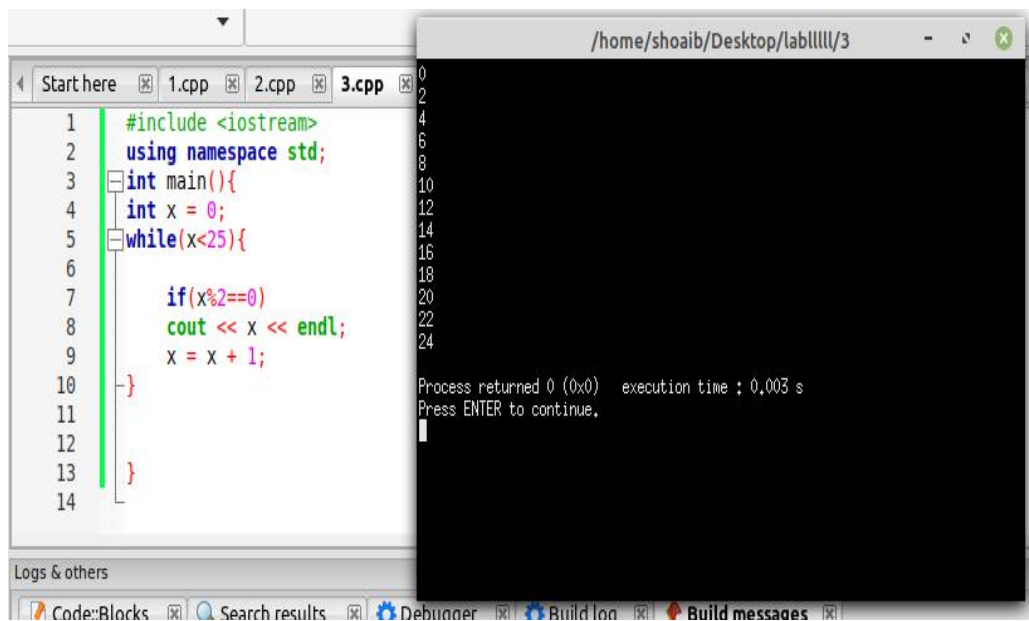
```
/home/shoaib/Desktop/lablllll/2
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Process returned 0 (0x0) execution time : 0.003 s
Press ENTER to continue.
```

Build output:

```
=== Build file: "no target" in "no project" (compiler: unknown) ===
=== Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

File: desktop/lablllll/2.cpp | Unix (LF) | UTF-8 | Line 11

Task 03



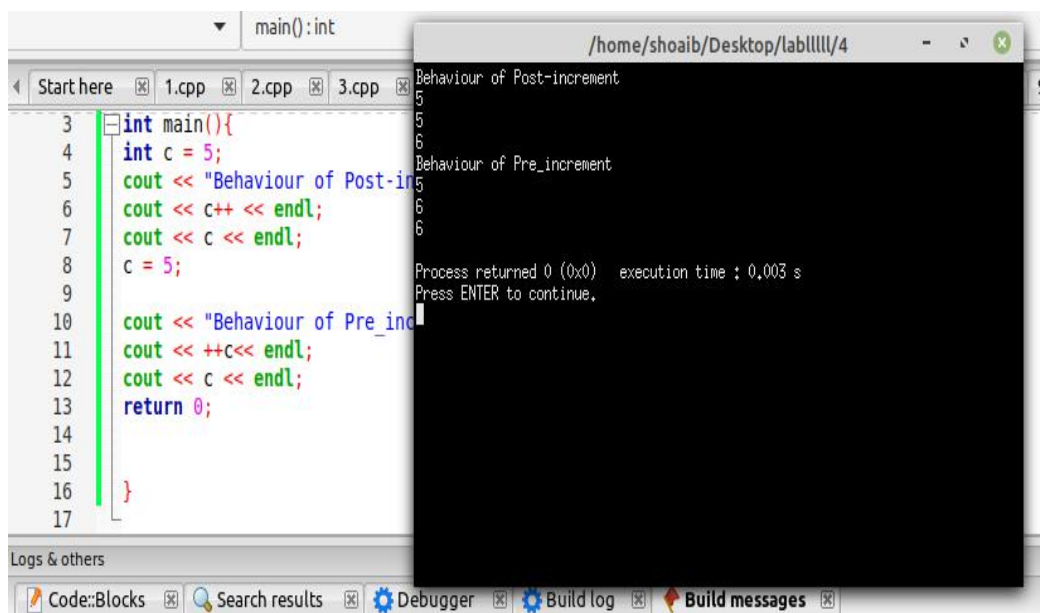
The screenshot shows an IDE with a C++ file named 3.cpp. The code is as follows:

```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int x = 0;
5     while(x<25){
6
7         if(x%2==0)
8             cout << x << endl;
9         x = x + 1;
10    }
11
12
13 }
14
```

The output window shows the execution results:

```
0
2
4
6
8
10
12
14
16
18
20
22
24
Process returned 0 (0x0)   execution time : 0,003 s
Press ENTER to continue.
```

Task 04



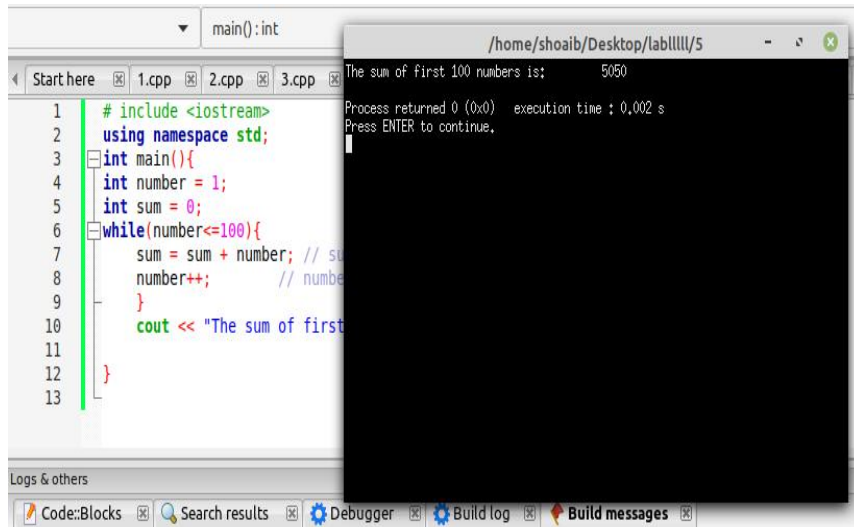
The screenshot shows an IDE with a C++ file named 3.cpp. The code is as follows:

```
3 int main(){
4     int c = 5;
5     cout << "Behaviour of Post-increment" << endl;
6     cout << c++ << endl;
7     cout << c << endl;
8     c = 5;
9
10    cout << "Behaviour of Pre-increment" << endl;
11    cout << ++c << endl;
12    cout << c << endl;
13    return 0;
14
15
16 }
17
```

The output window shows the execution results:

```
Behaviour of Post-increment
5
5
6
Behaviour of Pre-increment
6
6
6
Process returned 0 (0x0)   execution time : 0,003 s
Press ENTER to continue.
```

Task 05



The screenshot shows the Code::Blocks IDE with a C++ project. The main window displays the source code in 1.cpp, which calculates the sum of the first 100 numbers using a while loop. The output window, titled "/home/shoaib/Desktop/lab1111/5", shows the result: "The sum of first 100 numbers is: 5050". The process returned 0 (0x0) and the execution time was 0.002 s.

```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int number = 1;
5     int sum = 0;
6     while(number<=100){
7         sum = sum + number; // sum
8         number++;          // number
9     }
10    cout << "The sum of first
11
12 }
13
```

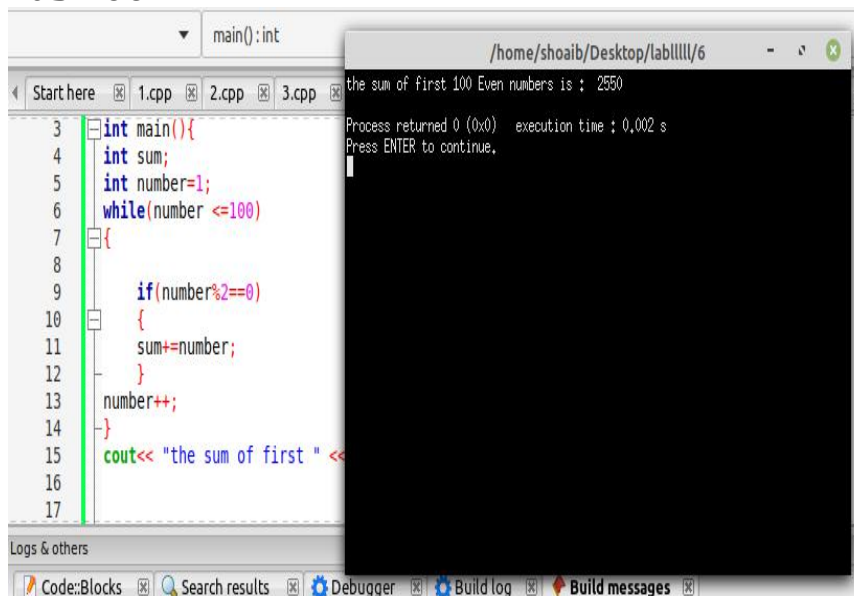
Output window: /home/shoaib/Desktop/lab1111/5

The sum of first 100 numbers is: 5050

Process returned 0 (0x0) execution time : 0.002 s

Press ENTER to continue.

Task 06



The screenshot shows the Code::Blocks IDE with a C++ project. The main window displays the source code in 1.cpp, which calculates the sum of the first 100 even numbers using a while loop and an if statement to check for even numbers. The output window, titled "/home/shoaib/Desktop/lab1111/6", shows the result: "the sum of first 100 Even numbers is : 2550". The process returned 0 (0x0) and the execution time was 0.002 s.

```
3 int main(){
4     int sum;
5     int number=1;
6     while(number <=100)
7     {
8
9         if(number%2==0)
10        {
11            sum+=number;
12        }
13        number++;
14    }
15    cout<< "the sum of first " <<
16
17
```

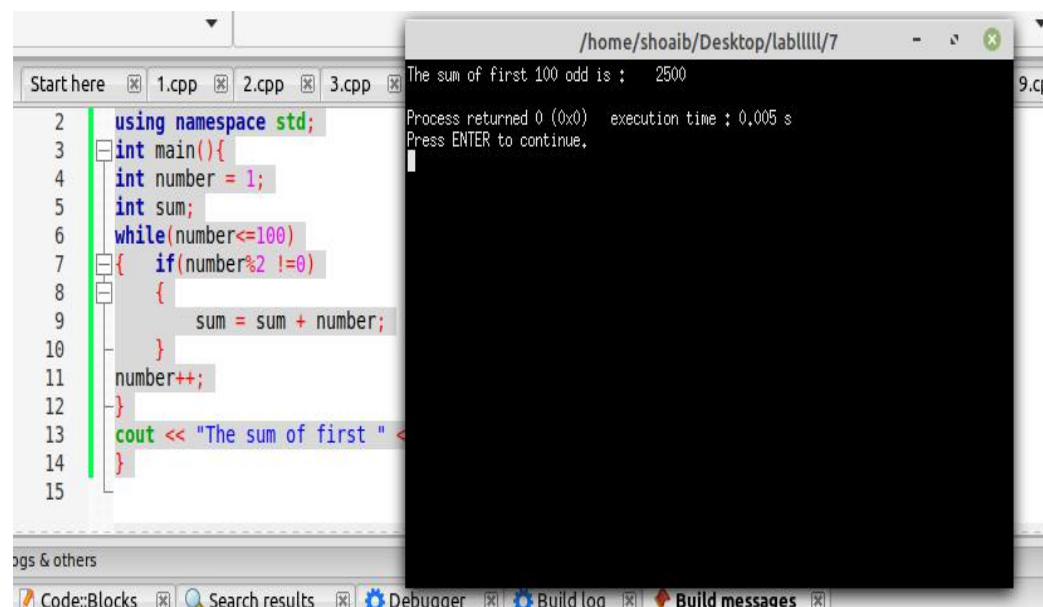
Output window: /home/shoaib/Desktop/lab1111/6

the sum of first 100 Even numbers is : 2550

Process returned 0 (0x0) execution time : 0.002 s

Press ENTER to continue.

Task 07

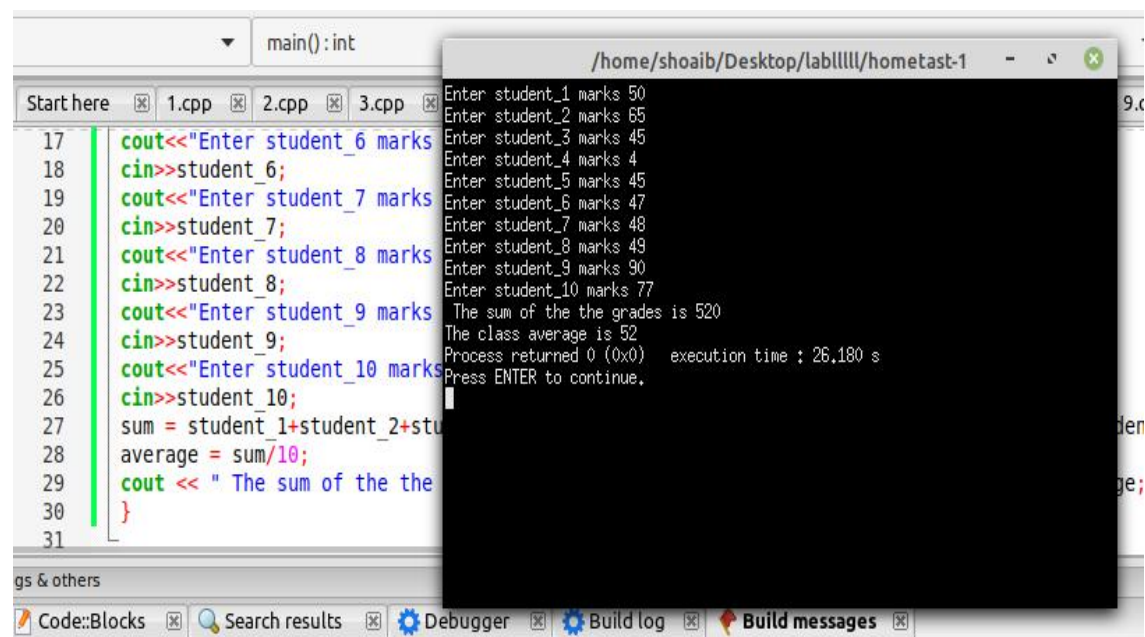


The screenshot shows the Code::Blocks IDE with a C++ program open in the editor. The program calculates the sum of the first 100 odd numbers. The output window displays the result: "The sum of first 100 odd is : 2500".

```
1 // Task 07: Sum of first 100 odd numbers
2 using namespace std;
3 int main(){
4     int number = 1;
5     int sum;
6     while(number<=100)
7     {
8         if(number%2 !=0)
9         {
10             sum = sum + number;
11         }
12         number++;
13     }
14     cout << "The sum of first " << number << " is : " << sum << endl;
15 }
```

Output: The sum of first 100 odd is : 2500
Process returned 0 (0x0) execution time : 0.005 s
Press ENTER to continue.

Home Task

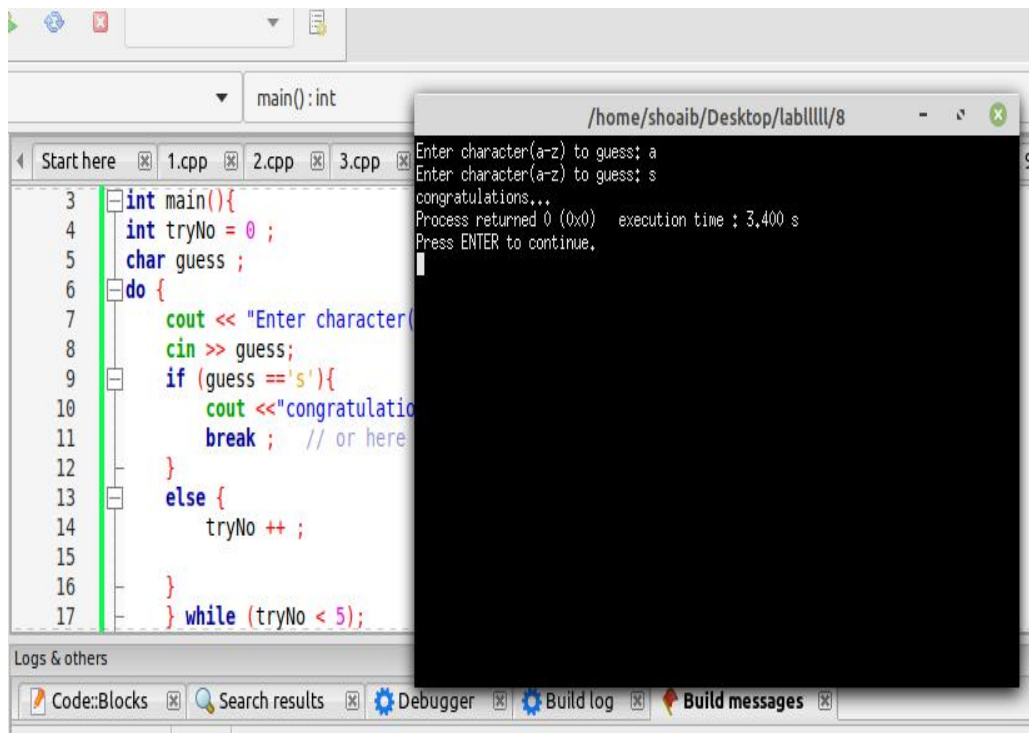


The screenshot shows the Code::Blocks IDE with a C++ program open in the editor. The program calculates the sum and average of marks for 10 students. The output window displays the results: "The sum of the the grades is 520" and "The class average is 52".

```
1 // Home Task: Student Marks
2 #include <iostream>
3 using namespace std;
4 int main()
5 {
6     int student_1, student_2, student_3, student_4, student_5, student_6, student_7, student_8, student_9, student_10;
7     cout << "Enter student_1 marks ";
8     cin >> student_1;
9     cout << "Enter student_2 marks ";
10    cin >> student_2;
11    cout << "Enter student_3 marks ";
12    cin >> student_3;
13    cout << "Enter student_4 marks ";
14    cin >> student_4;
15    cout << "Enter student_5 marks ";
16    cin >> student_5;
17    cout << "Enter student_6 marks ";
18    cin >> student_6;
19    cout << "Enter student_7 marks ";
20    cin >> student_7;
21    cout << "Enter student_8 marks ";
22    cin >> student_8;
23    cout << "Enter student_9 marks ";
24    cin >> student_9;
25    cout << "Enter student_10 marks ";
26    cin >> student_10;
27    int sum = student_1 + student_2 + student_3 + student_4 + student_5 + student_6 + student_7 + student_8 + student_9 + student_10;
28    float average = sum / 10;
29    cout << "The sum of the the grades is " << sum << endl;
30    cout << "The class average is " << average << endl;
31    return 0;
32 }
```

Output: Enter student_1 marks 50
Enter student_2 marks 65
Enter student_3 marks 45
Enter student_4 marks 4
Enter student_5 marks 45
Enter student_6 marks 47
Enter student_7 marks 48
Enter student_8 marks 49
Enter student_9 marks 90
Enter student_10 marks 77
The sum of the the grades is 520
The class average is 52
Process returned 0 (0x0) execution time : 26.180 s
Press ENTER to continue.

Task 08



The screenshot displays the Code::Blocks IDE interface. The main editor window shows a C++ program in `3.cpp` with the following code:

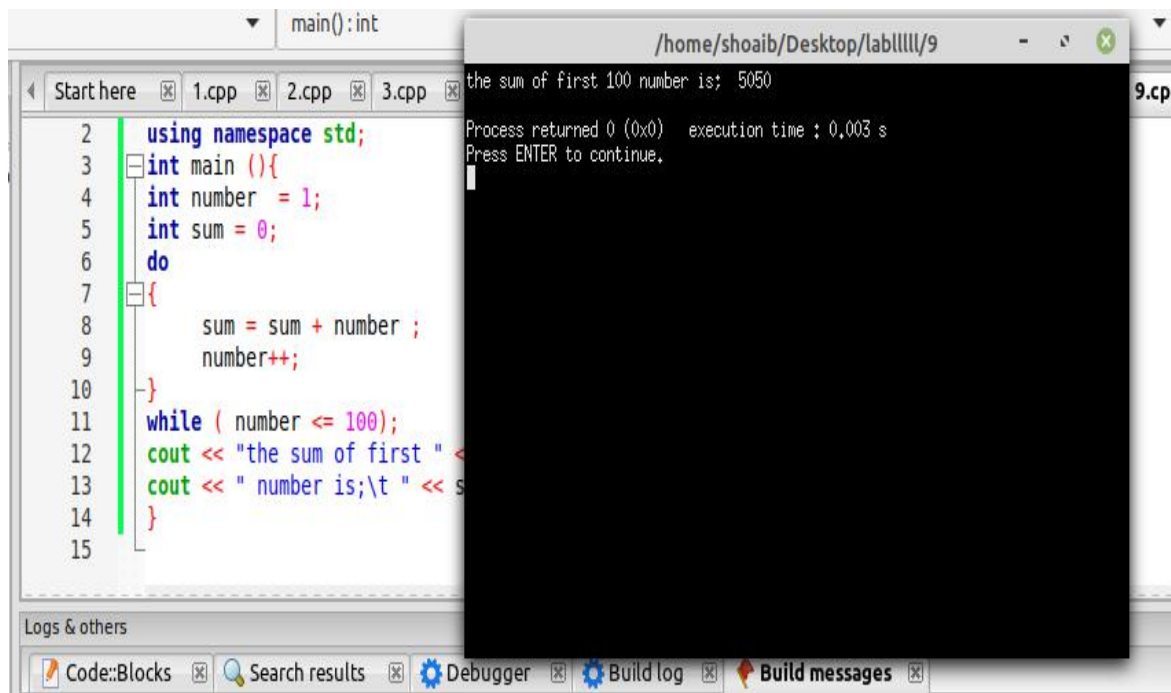
```
3 int main(){
4     int tryNo = 0 ;
5     char guess ;
6     do {
7         cout << "Enter character(a-z) to guess: ";
8         cin >> guess;
9         if (guess == 's'){
10            cout << "congratulations...";
11            break ; // or here
12        }
13        else {
14            tryNo ++ ;
15        }
16    } while (tryNo < 5);
17 }
```

The program is executed, and the output is shown in a terminal window titled `/home/shoaib/Desktop/lablllll/8`. The output text is:

```
Enter character(a-z) to guess: a
Enter character(a-z) to guess: s
congratulations...
Process returned 0 (0x0)   execution time : 3,400 s
Press ENTER to continue.
```

The IDE's status bar at the bottom includes tabs for `Code::Blocks`, `Search results`, `Debugger`, `Build log`, and `Build messages`.

Task 09

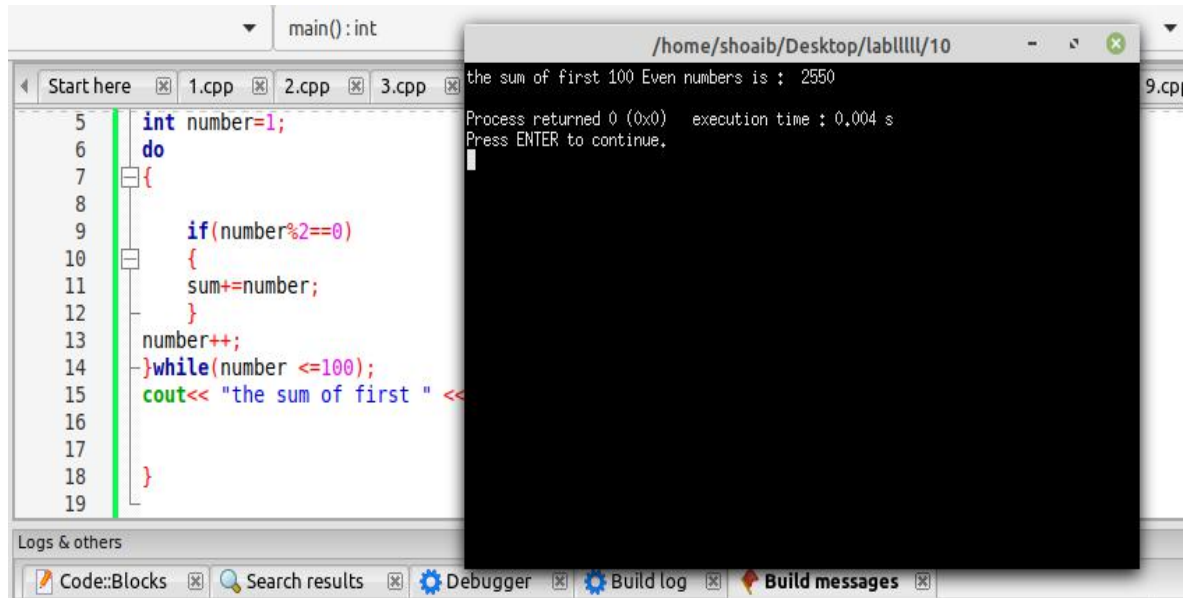


The screenshot shows the Code::Blocks IDE with a C++ file named 1.cpp. The code calculates the sum of the first 100 natural numbers using a while loop. The terminal window shows the output: "the sum of first 100 number is: 5050".

```
2 using namespace std;
3 int main () {
4     int number = 1;
5     int sum = 0;
6     do
7     {
8         sum = sum + number ;
9         number++;
10    }
11    while ( number <= 100);
12    cout << "the sum of first " <<
13    cout << " number is;\t " << s
14 }
15
```

the sum of first 100 number is: 5050
Process returned 0 (0x0) execution time : 0,003 s
Press ENTER to continue.

Task 10

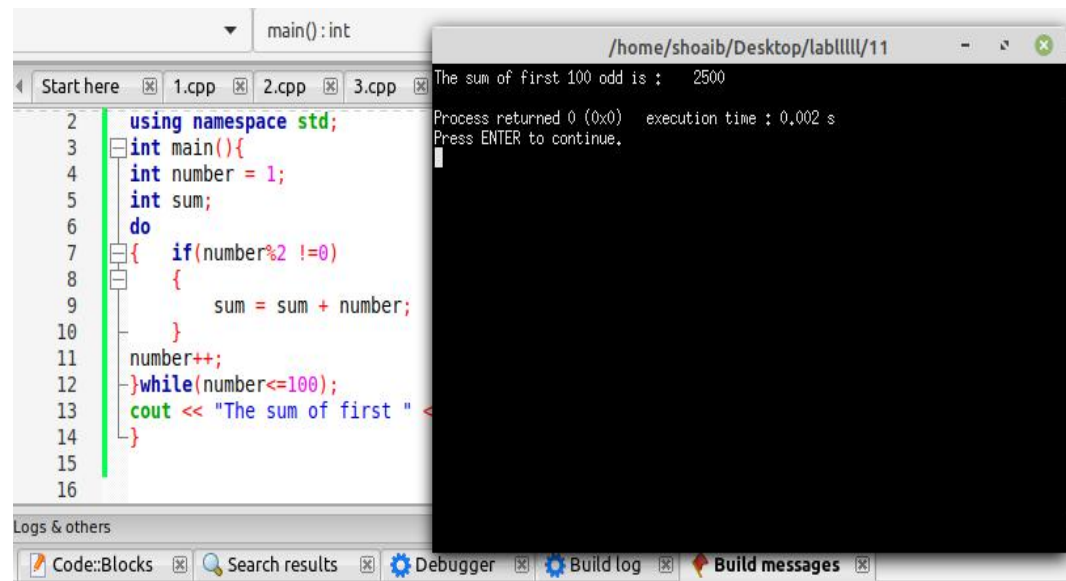


The screenshot shows the Code::Blocks IDE with a C++ file named 1.cpp. The code calculates the sum of the first 100 even numbers using a while loop. The terminal window shows the output: "the sum of first 100 Even numbers is : 2550".

```
5 int number=1;
6 do
7 {
8
9     if(number%2==0)
10    {
11        sum+=number;
12    }
13    number++;
14 }while(number <=100);
15 cout<< "the sum of first " <<
16
17
18 }
19
```

the sum of first 100 Even numbers is : 2550
Process returned 0 (0x0) execution time : 0,004 s
Press ENTER to continue.

Task 11

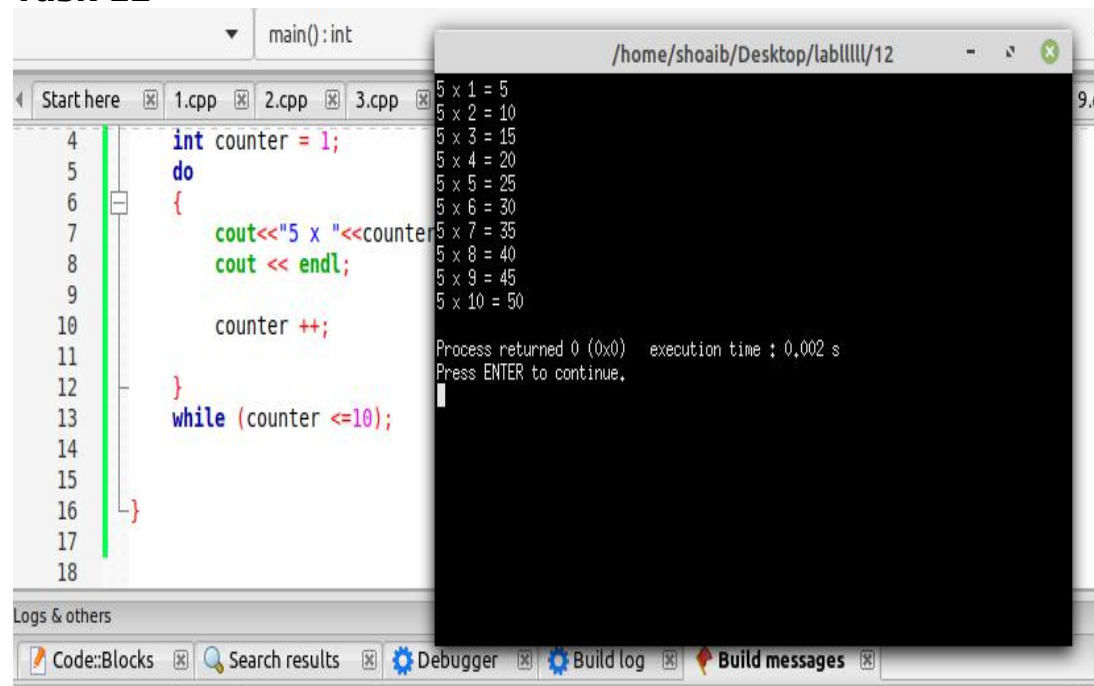


```
2 using namespace std;
3 int main(){
4     int number = 1;
5     int sum;
6     do
7     { if(number%2 !=0)
8       {
9         sum = sum + number;
10      }
11     number++;
12 }while(number<=100);
13 cout << "The sum of first " <
14 }
15
16
```

The sum of first 100 odd is : 2500

Process returned 0 (0x0) execution time : 0.002 s
Press ENTER to continue.

Task 12

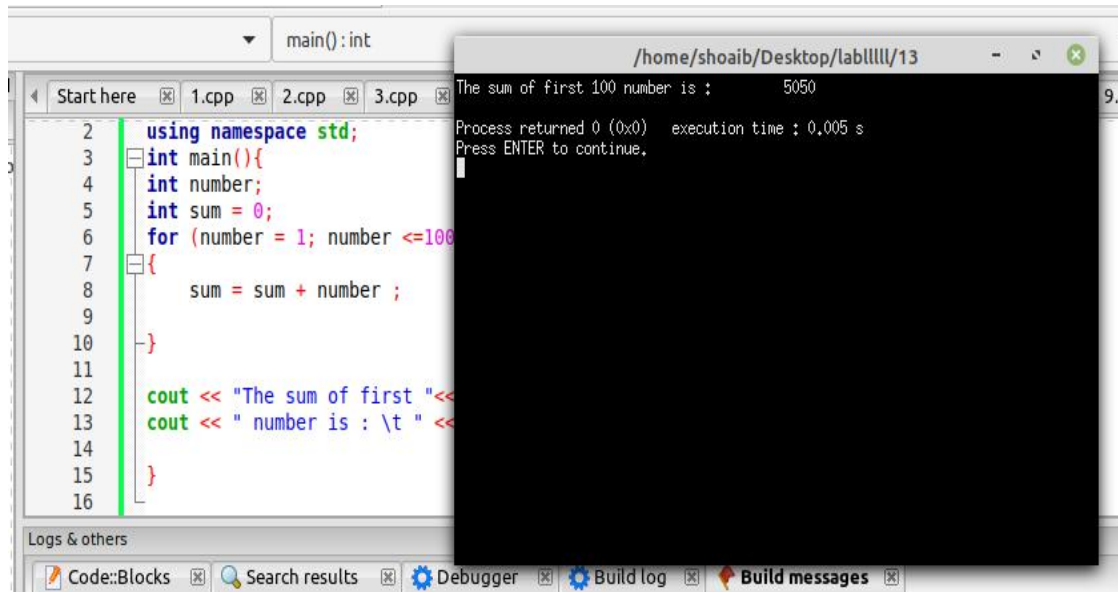


```
4 int counter = 1;
5 do
6 {
7     cout<<"5 x "<<counter<<endl;
8     counter ++;
9 }
10 while (counter <=10);
11
12
13
14
15
16
17
18
```

5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

Process returned 0 (0x0) execution time : 0.002 s
Press ENTER to continue.

Task 13



The image shows a code editor window with a C++ program and a terminal window displaying the output.

Code Editor (main() : int):

```
2 using namespace std;
3 int main(){
4     int number;
5     int sum = 0;
6     for (number = 1; number <= 100; number++)
7     {
8         sum = sum + number ;
9     }
10
11
12     cout << "The sum of first " << 100 << endl;
13     cout << " number is : \t " << 100 << endl;
14
15 }
16
```

Terminal Window (/home/shoaib/Desktop/lablllll/13):

```
The sum of first 100 number is :      5050
Process returned 0 (0x0)   execution time : 0.005 s
Press ENTER to continue.
```

The code editor also shows tabs for 'Start here', '1.cpp', '2.cpp', and '3.cpp'. The terminal window title is '/home/shoaib/Desktop/lablllll/13'.

Task 14

```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int sum = 0;
5     int number ;
6     for (int number = 0; number < 10; number++)
7     { if (number%2 == 0) {
8         sum = sum + number;
9     }
10 }
11 cout << "the sum of first 10 even numbers is: ";
12 cout << sum << endl;
13
14
15
```

the sum of first 10 even numbers is: 2550

Process returned 0 (0x0) execution time : 0,002 s
Press ENTER to continue.

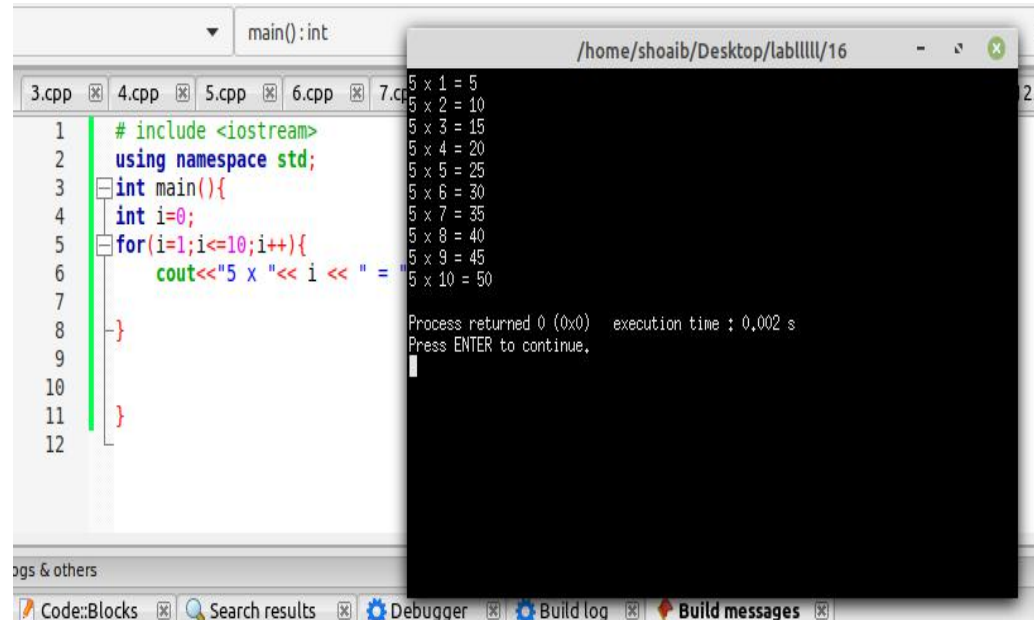
Task 15

```
5 int number ;
6 for (int number = 0; number < 100; number++)
7 { if (number%2 != 0) {
8     sum = sum + number;
9 }
10 }
11 cout << "the sum of first 100 odd numbers is: ";
12 cout << sum << endl;
13
14
15
16
17 }
18
19
```

the sum of first 100 odd numbers is: 2500

Process returned 0 (0x0) execution time : 0,002 s
Press ENTER to continue.

Task 16

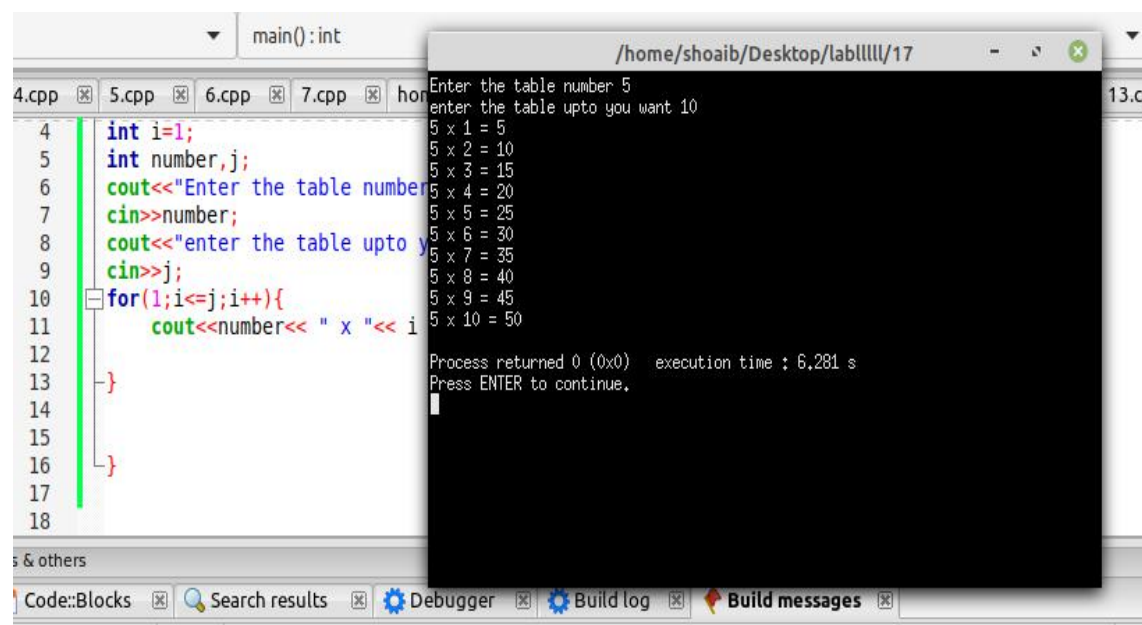


```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int i=0;
5     for(i=1;i<=10;i++){
6         cout<<"5 x "<< i << " = "
7     }
8 }
9
10
11
12
```

5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

Process returned 0 (0x0) execution time : 0.002 s
Press ENTER to continue.

Task 17

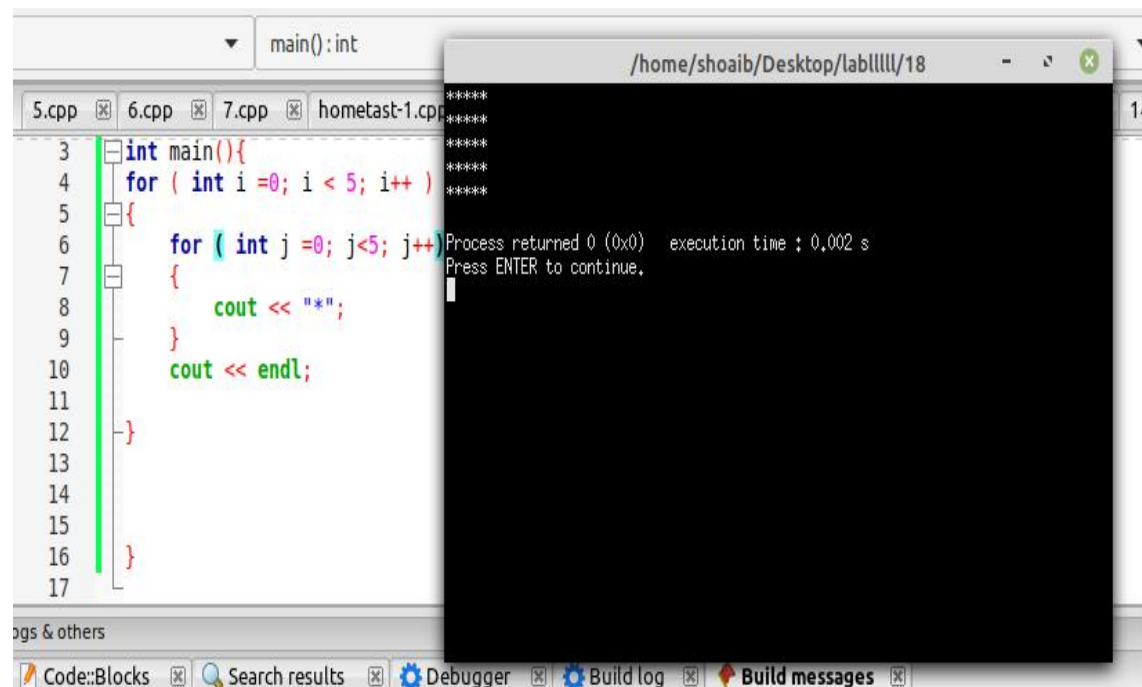


```
4 int i=1;
5 int number,j;
6 cout<<"Enter the table number";
7 cin>>number;
8 cout<<"enter the table upto y";
9 cin>>j;
10 for(1;i<=j;i++){
11     cout<<number<< " x "<< i
12 }
13
14
15
16
17
18
```

Enter the table number 5
enter the table upto you want 10
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

Process returned 0 (0x0) execution time : 6.281 s
Press ENTER to continue.

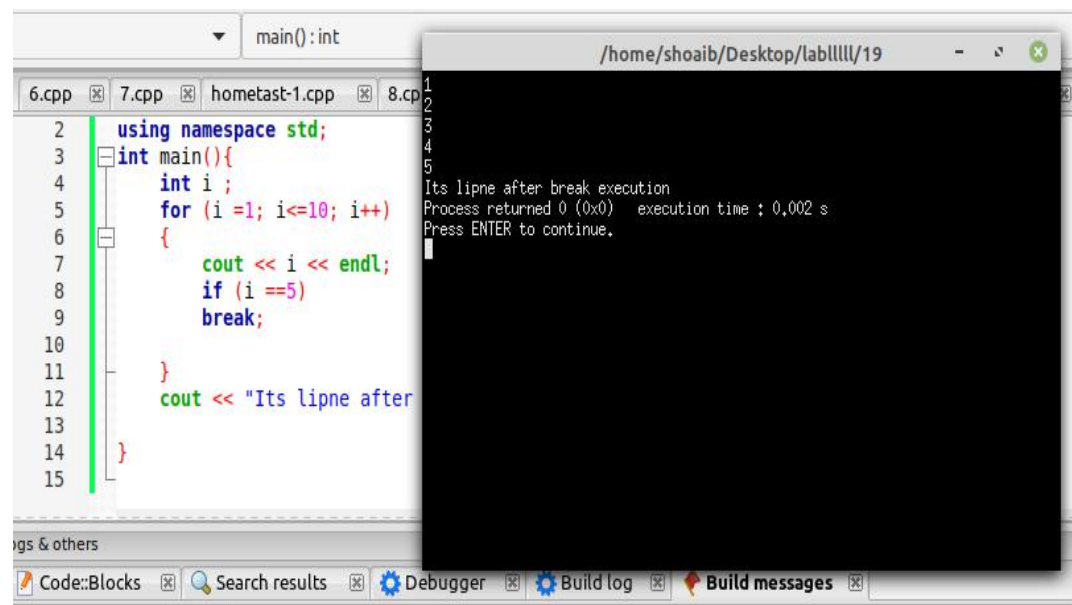
Task 18



```
main():int
5.cpp 6.cpp 7.cpp hometast-1.cpp
3 int main(){
4   for ( int i =0; i < 5; i++ )
5   {
6       for ( int j =0; j<5; j++ )
7       {
8           cout << "*";
9       }
10      cout << endl;
11  }
12
13
14
15
16
17
logs & others
Code::Blocks Search results Debugger Build log Build messages
```

```
/home/shoaib/Desktop/lablllll/18
*****
*****
*****
*****
*****
Process returned 0 (0x0)   execution time : 0.002 s
Press ENTER to continue.
```

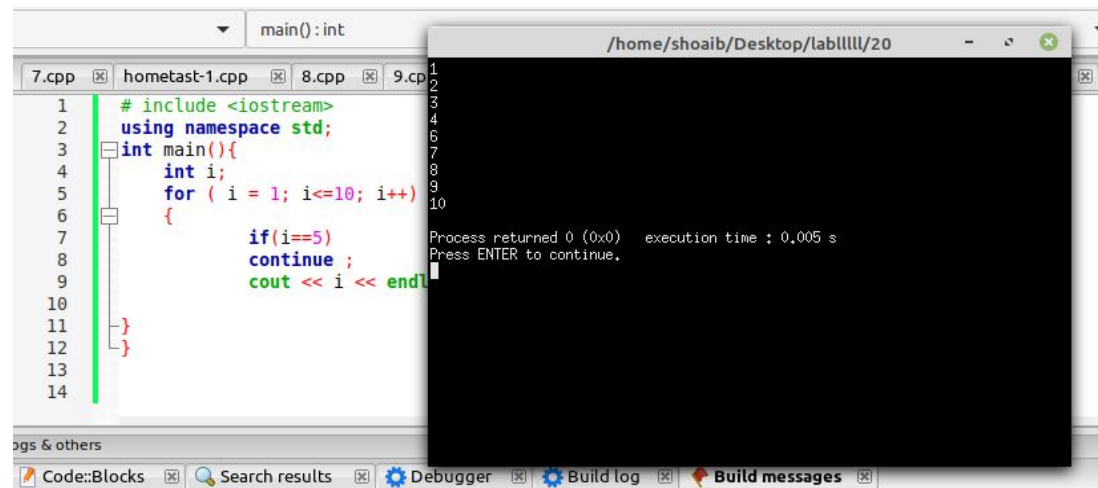
Task 19



```
main():int
6.cpp 7.cpp hometast-1.cpp 8.cpp
2 using namespace std;
3 int main(){
4     int i ;
5     for ( i =1; i<=10; i++)
6     {
7         cout << i << endl;
8         if ( i ==5)
9             break;
10    }
11    cout << "Its lipne after
12
13
14
15
logs & others
Code::Blocks Search results Debugger Build log Build messages
```

```
/home/shoaib/Desktop/lablllll/19
1
2
3
4
5
Its lipne after break execution
Process returned 0 (0x0)   execution time : 0.002 s
Press ENTER to continue.
```

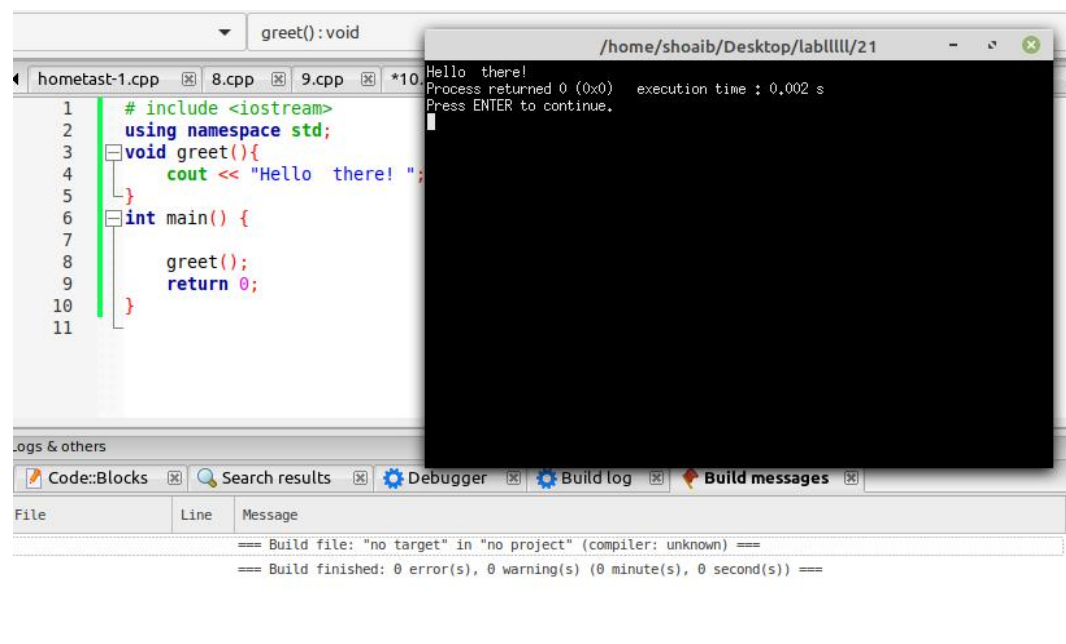
Task 20



```
1 #include <iostream>
2 using namespace std;
3 int main(){
4     int i;
5     for ( i = 1; i<=10; i++)
6     {
7         if(i==5)
8             continue ;
9         cout << i << endl;
10    }
11 }
12
13
14
```

Process returned 0 (0x0) execution time : 0.005 s
Press ENTER to continue.

Task 21



```
1 #include <iostream>
2 using namespace std;
3 void greet(){
4     cout << "Hello there! ";
5 }
6 int main() {
7     greet();
8     return 0;
9 }
10
11
```

Hello there!
Process returned 0 (0x0) execution time : 0.002 s
Press ENTER to continue.

Build file: "no target" in "no project" (compiler: unknown) ==
Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ==

Task 22

```
func(): void
*10.cpp 11.cpp 12.cpp 13.cpp
2 using namespace std;
3 void func() {
4     static int i=0;
5     int j=0;
6     i++;
7     j++;
8     cout<< " i= " << i<<" and j= " << j<<endl;
9 }
10 int main(){
11     func();
12     func();
13     func();
14     return 0;
15 }
16
```

Output window (/home/shoaib/Desktop/lablllll/22):

```
i= 1 and j= 1
i= 2 and j= 1
i= 3 and j= 1

Process returned 0 (0x0)   execution time : 0,002 s
Press ENTER to continue.
```

Task 23

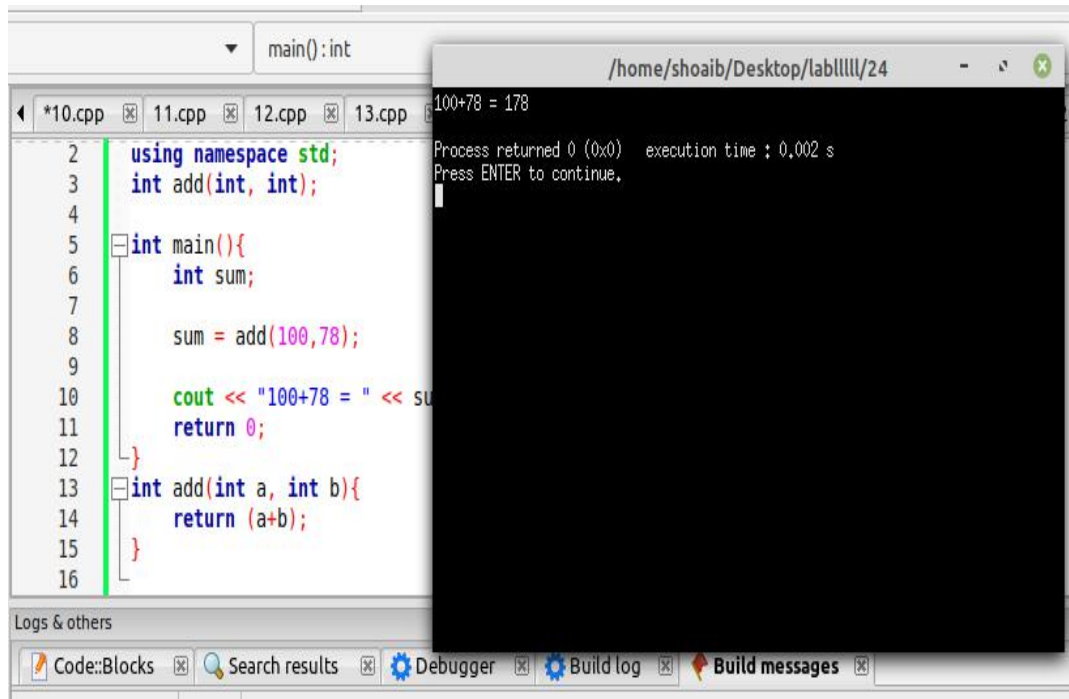
```
add(int a, int b): int
*10.cpp 11.cpp 12.cpp 13.cpp
1 #include<iostream>
2 using namespace std;
3
4 int add(int a, int b){
5     return (a+b);
6 }
7 int main(){
8     int sum;
9     sum = add(100,78);
10    cout << " 100 + 78 = " << sum <<endl;
11    return 0;
12 }
13
```

Output window (/home/shoaib/Desktop/lablllll/23):

```
100 + 78 = 178

Process returned 0 (0x0)   execution time : 0,002 s
Press ENTER to continue.
```

Task 24



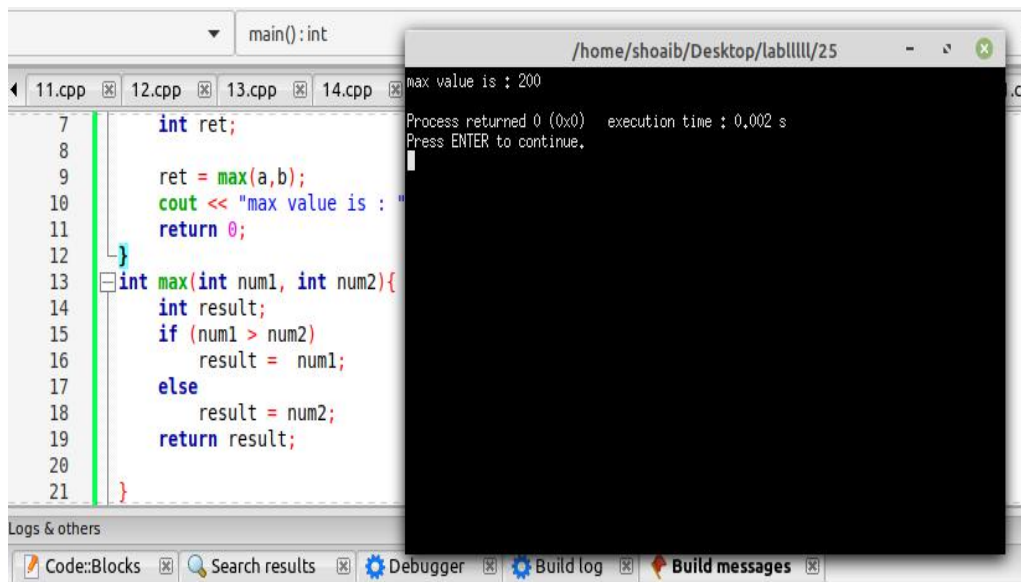
The screenshot shows a C++ IDE with a file named `10.cpp` open. The code defines a function `add` and a `main` function that calls it with arguments 100 and 78. The output window displays the result of the addition.

```
2 using namespace std;
3 int add(int, int);
4
5 int main(){
6     int sum;
7
8     sum = add(100,78);
9
10    cout << "100+78 = " << sum;
11    return 0;
12 }
13 int add(int a, int b){
14     return (a+b);
15 }
16
```

Output window: `/home/shoaib/Desktop/lablllll/24`

```
100+78 = 178
Process returned 0 (0x0)   execution time : 0.002 s
Press ENTER to continue.
```

Task 25



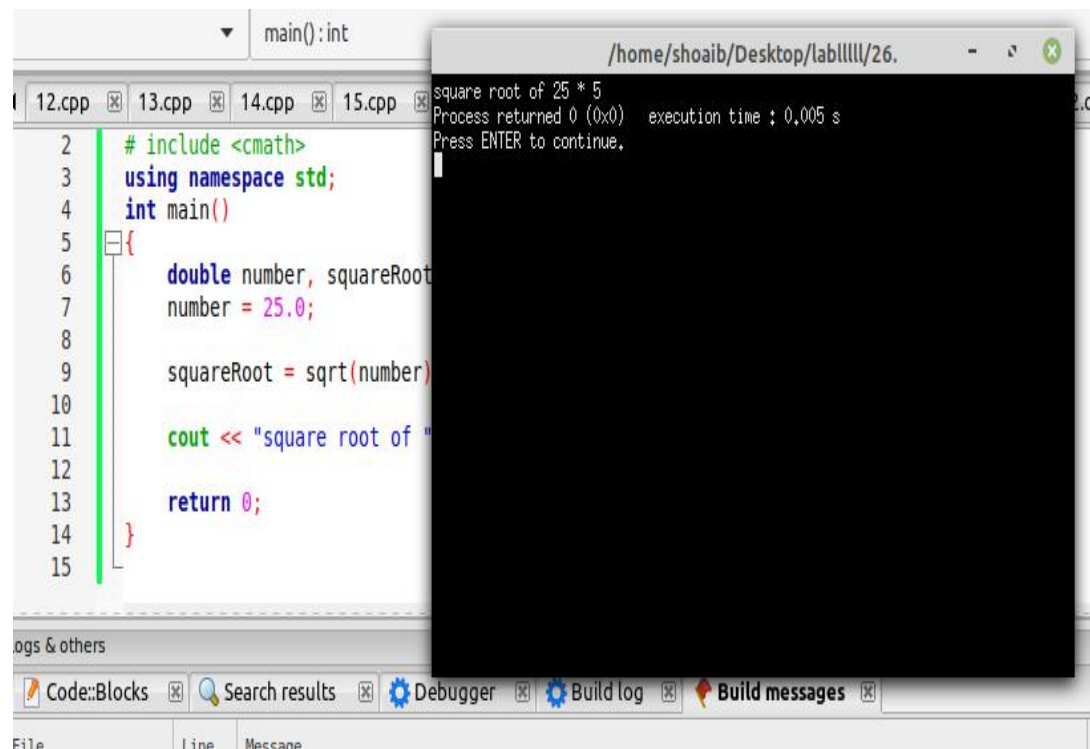
The screenshot shows a C++ IDE with a file named `14.cpp` open. The code defines a function `max` that takes two integers and returns the larger one. The `main` function calls `max` with arguments 100 and 200. The output window displays the result.

```
7 int ret;
8
9 ret = max(a,b);
10 cout << "max value is : " << ret;
11 return 0;
12 }
13 int max(int num1, int num2){
14     int result;
15     if (num1 > num2)
16         result = num1;
17     else
18         result = num2;
19     return result;
20 }
21
```

Output window: `/home/shoaib/Desktop/lablllll/25`

```
max value is : 200
Process returned 0 (0x0)   execution time : 0.002 s
Press ENTER to continue.
```


Task 26



The screenshot shows the Code::Blocks IDE with a C++ project. The main window displays the source code for `main()` in `15.cpp`. The code calculates the square root of 25.0 using the `sqrt` function from the `<cmath>` library. A terminal window is open, showing the output of the program: "square root of 25 * 5". The terminal also displays the process return code (0) and execution time (0.005 s).

```
2  #include <cmath>
3  using namespace std;
4  int main()
5  {
6      double number, squareRoot;
7      number = 25.0;
8
9      squareRoot = sqrt(number);
10
11     cout << "square root of "
12
13     return 0;
14 }
15
```

Terminal Output:

```
/home/shoaib/Desktop/lablllll/26.
square root of 25 * 5
Process returned 0 (0x0)   execution time : 0.005 s
Press ENTER to continue.
```