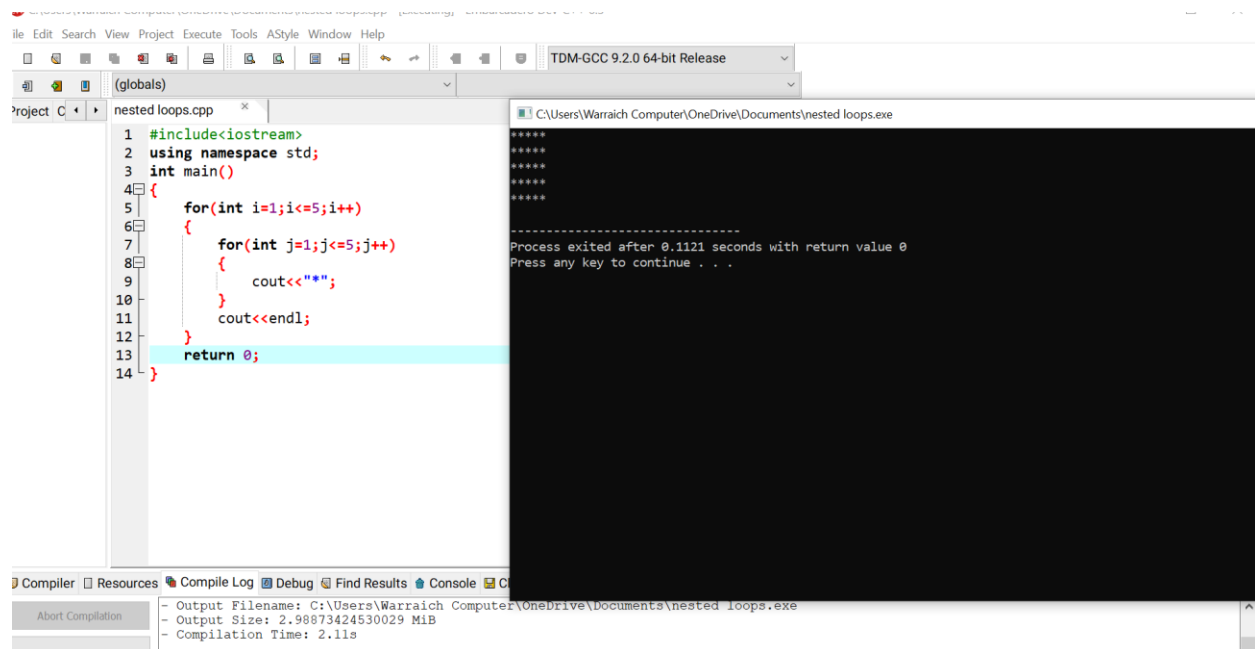


PROGRAMMING FUNDAMENTAL

LAB TASK 8

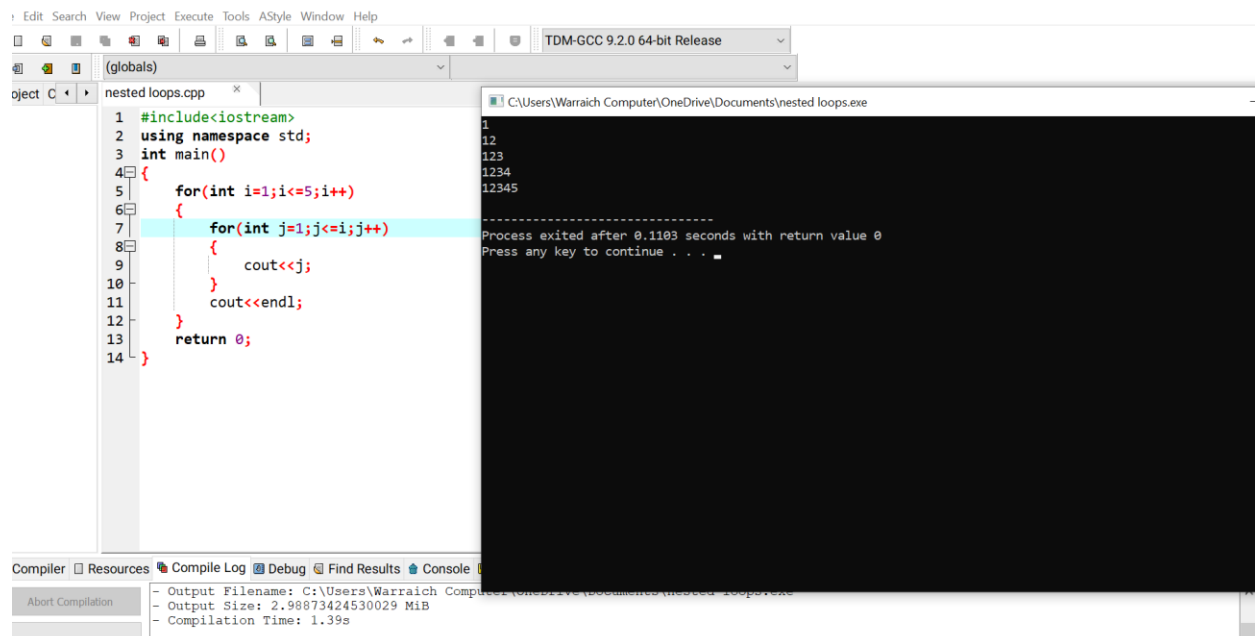
Q1



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for(int i=1;i<=5;i++)
6     {
7         for(int j=1;j<=5;j++)
8         {
9             cout<<"*";
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

Process exited after 0.1121 seconds with return value 0
Press any key to continue . . .

Q2



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for(int i=1;i<=5;i++)
6     {
7         for(int j=1;j<=i;j++)
8         {
9             cout<<j;
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

1
12
123
1234
12345
Process exited after 0.1103 seconds with return value 0
Press any key to continue . . .

Q3

The screenshot shows a C++ IDE with the following code in `nested loops.cpp`:

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     char i,j;
6     for(i='a';i<='e';i++)
7     {
8         for(j='a';j<='e';j++)
9         {
10             cout<<j;
11         }
12         cout<<endl;
13     }
14     return 0;
15 }
```

The output window shows the execution results:

```
abcde
abcde
abcde
abcde
abcde
-----
Process exited after 0.1162 seconds with return value 0
Press any key to continue . . .
```

The compiler status at the bottom indicates:

- Output Filename: C:\Users\Warraich Computer\OneDrive\Documents\nested loops.exe
- Output Size: 2.98873424530029 MiB
- Compilation Time: 1.36s

Q4

The screenshot shows a C++ IDE with the following code in `nested loops.cpp`:

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for( int i=1;i<=5;i++)
6     {
7         for(int j=1;j<=5;j++)
8         {
9             cout<<j;
10         }
11         cout<<endl;
12     }
13     return 0;
14 }
```

The output window shows the execution results:

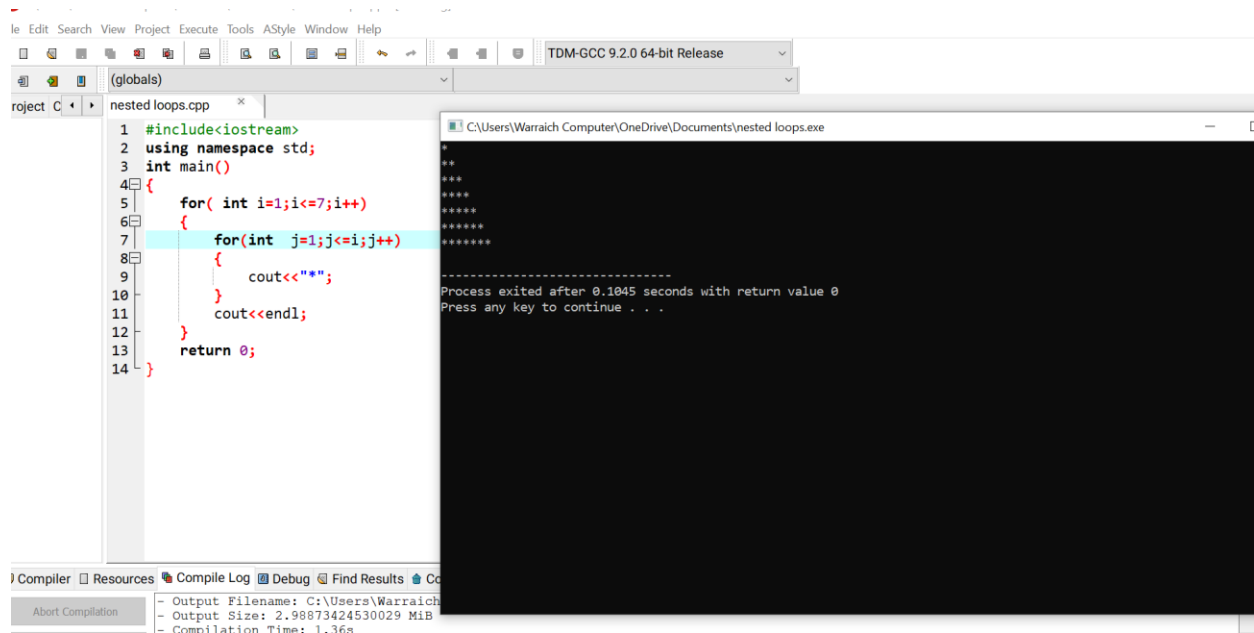
```
12345
12345
12345
12345
12345
-----
Process exited after 0.113 seconds with return value 0
Press any key to continue . . .
```

The compiler status at the bottom indicates:

- Output Filename: C:\Users\Warraich Computer\OneDrive\Documents\nested loops.exe
- Output Size: 2.98873424530029 MiB
- Compilation Time: 1.47s

At the bottom of the IDE, the status bar shows: "Shorten compiler path" and "Done parsing in 0.031 seconds".

Q5

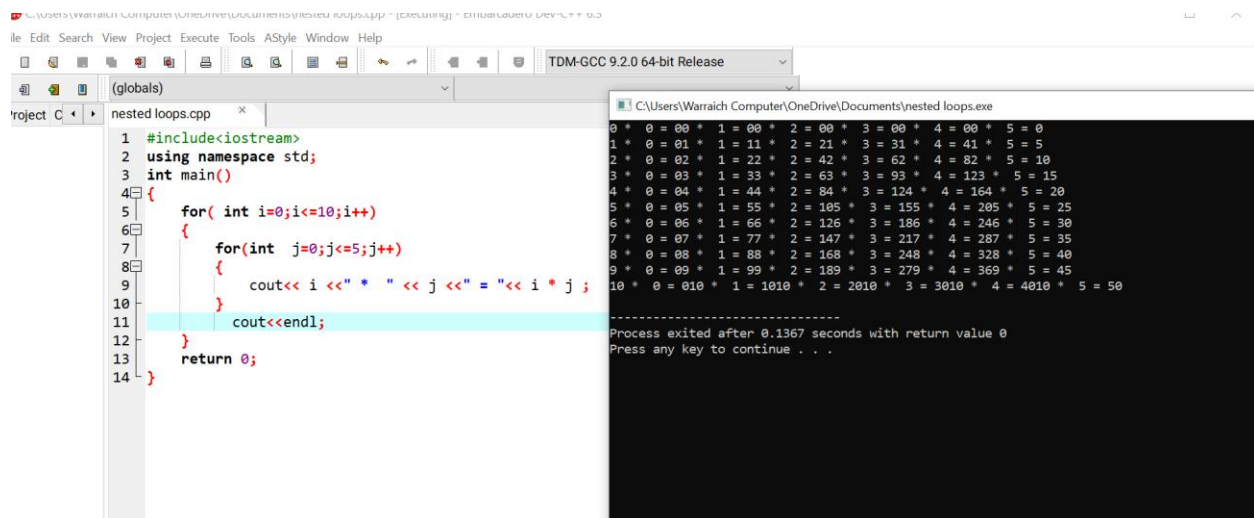


```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for( int i=1;i<=7;i++)
6     {
7         for(int j=1;j<=i;j++)
8         {
9             cout<<"*";
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

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

Process exited after 0.1845 seconds with return value 0
Press any key to continue . . .
```

Q6

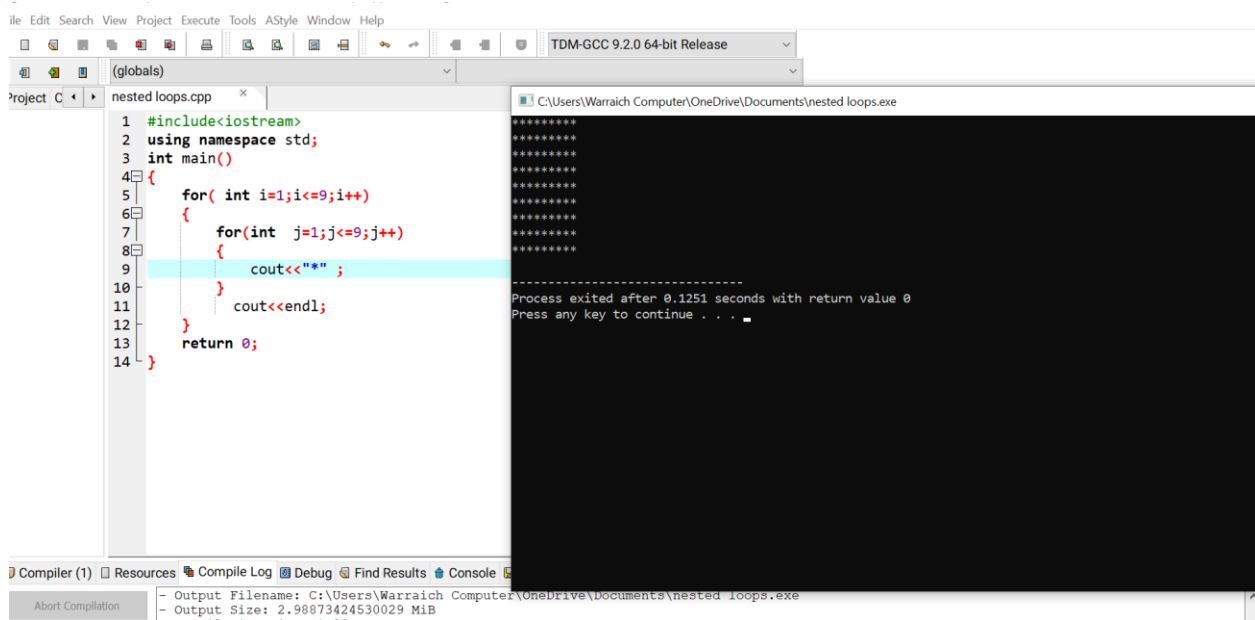


```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for( int i=0;i<=10;i++)
6     {
7         for(int j=0;j<=5;j++)
8         {
9             cout<< i <<" * " << j <<" = "<< i * j ;
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

```
0 * 0 = 00 * 1 = 00 * 2 = 00 * 3 = 00 * 4 = 00 * 5 = 0
1 * 0 = 01 * 1 = 11 * 2 = 21 * 3 = 31 * 4 = 41 * 5 = 5
2 * 0 = 02 * 1 = 22 * 2 = 42 * 3 = 62 * 4 = 82 * 5 = 10
3 * 0 = 03 * 1 = 33 * 2 = 63 * 3 = 93 * 4 = 123 * 5 = 15
4 * 0 = 04 * 1 = 44 * 2 = 84 * 3 = 124 * 4 = 164 * 5 = 20
5 * 0 = 05 * 1 = 55 * 2 = 105 * 3 = 155 * 4 = 205 * 5 = 25
6 * 0 = 06 * 1 = 66 * 2 = 126 * 3 = 186 * 4 = 246 * 5 = 30
7 * 0 = 07 * 1 = 77 * 2 = 147 * 3 = 217 * 4 = 287 * 5 = 35
8 * 0 = 08 * 1 = 88 * 2 = 168 * 3 = 248 * 4 = 328 * 5 = 40
9 * 0 = 09 * 1 = 99 * 2 = 189 * 3 = 279 * 4 = 369 * 5 = 45
10 * 0 = 010 * 1 = 1010 * 2 = 2010 * 3 = 3010 * 4 = 4010 * 5 = 50

Process exited after 0.1367 seconds with return value 0
Press any key to continue . . .
```

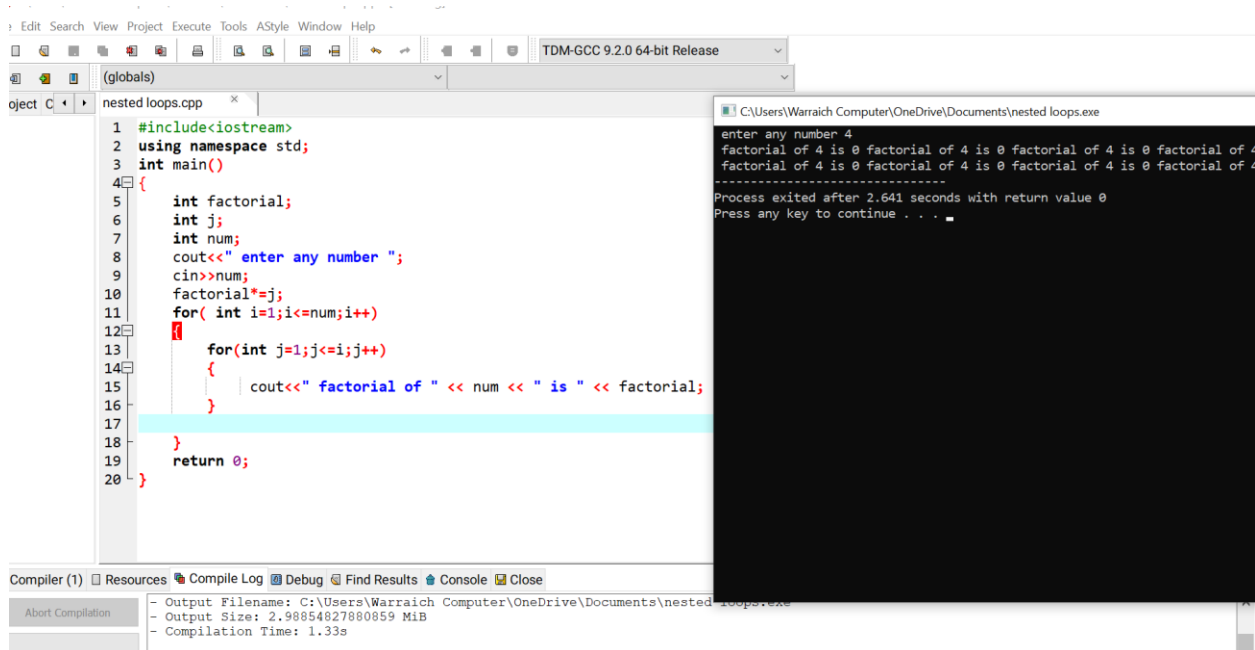
Q7



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     for( int i=1;i<=9;i++)
6     {
7         for(int j=1;j<=9;j++)
8         {
9             cout<<"*";
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

Process exited after 0.1251 seconds with return value 0
Press any key to continue . . .

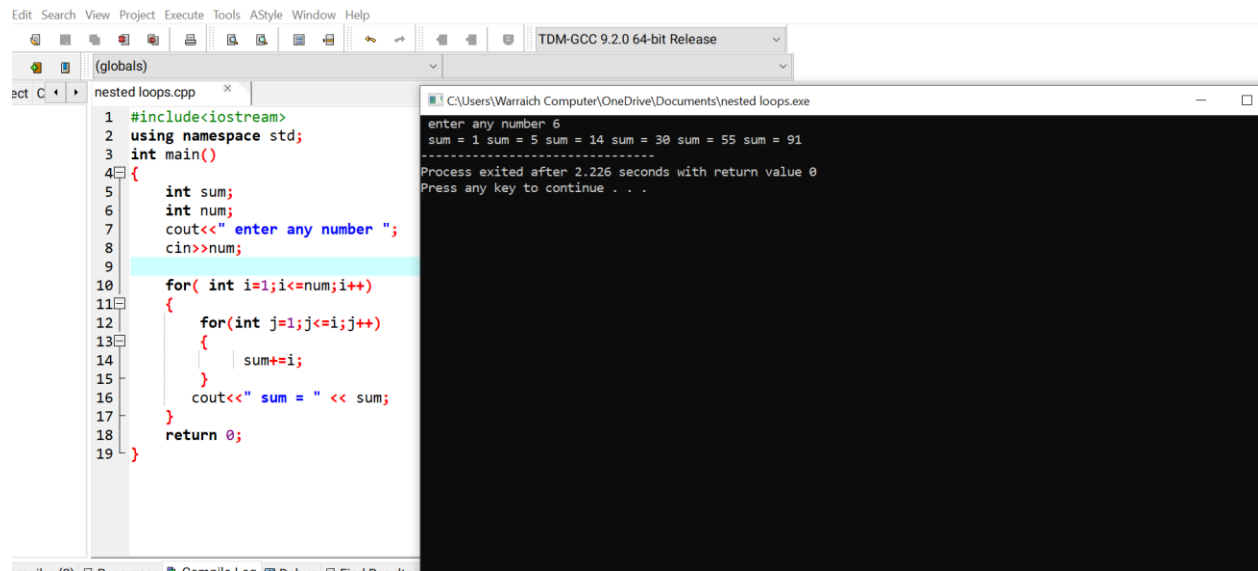
Q8



```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int factorial;
6     int j;
7     int num;
8     cout<<" enter any number ";
9     cin>>num;
10    factorial*=j;
11    for( int i=1;i<=num;i++)
12    {
13        for(int j=1;j<=i;j++)
14        {
15            cout<<" factorial of " << num << " is " << factorial;
16        }
17    }
18    return 0;
19 }
20 }
```

enter any number 4
factorial of 4 is 24 factorial of 4 is 24 factorial of 4 is 24 factorial of 4
factorial of 4 is 24 factorial of 4 is 24 factorial of 4 is 24 factorial of 4
Process exited after 2.641 seconds with return value 0
Press any key to continue . . .

Q9



The image shows a screenshot of a C++ IDE. The left pane displays the source code for a program named `nested loops.cpp`. The code uses nested `for` loops to calculate the sum of integers from 1 to `num`. The right pane shows the program's execution output, where the user has entered the number 6, and the program has printed the cumulative sum for each value of `i` from 1 to 6.

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int sum;
6     int num;
7     cout<<" enter any number ";
8     cin>>num;
9
10    for( int i=1;i<=num;i++)
11    {
12        for(int j=1;j<=i;j++)
13        {
14            sum+=i;
15        }
16        cout<<" sum = " << sum;
17    }
18    return 0;
19 }
```

Output:

```
enter any number 6
sum = 1 sum = 5 sum = 14 sum = 30 sum = 55 sum = 91
.....
Process exited after 2.226 seconds with return value 0
Press any key to continue . . .
```