



SAVEETHA SCHOOL OF ENGINEERING
SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



DAY 4 Assignment QUESTIONS.

1. Write a program to reverse a word using loop?

Sample Input:

String: TEMPLE

Sample Output:

Reverse String: ELPMET

Test cases:

1. SIGN UP
2. AT-LEAST
3. 1245
4. !@#\$\$%
5. 145*999=144855

Output of the given program with source code:

The screenshot shows a C++ program in the Dev-C++ IDE. The source code is as follows:

```
1 #include<iostream>
2 #include<string>
3 using namespace std;
4 int main()
5 {
6     string str="";
7     cout<<"the string is:";
8     cin>>str;
9     int i;
10    cout<<"the reverse string is:";
11    for(i=str.length()-1;i>=0;i--)
12    {
13        cout<<str[i];
14    }
15 }
```

The output window shows the following text:

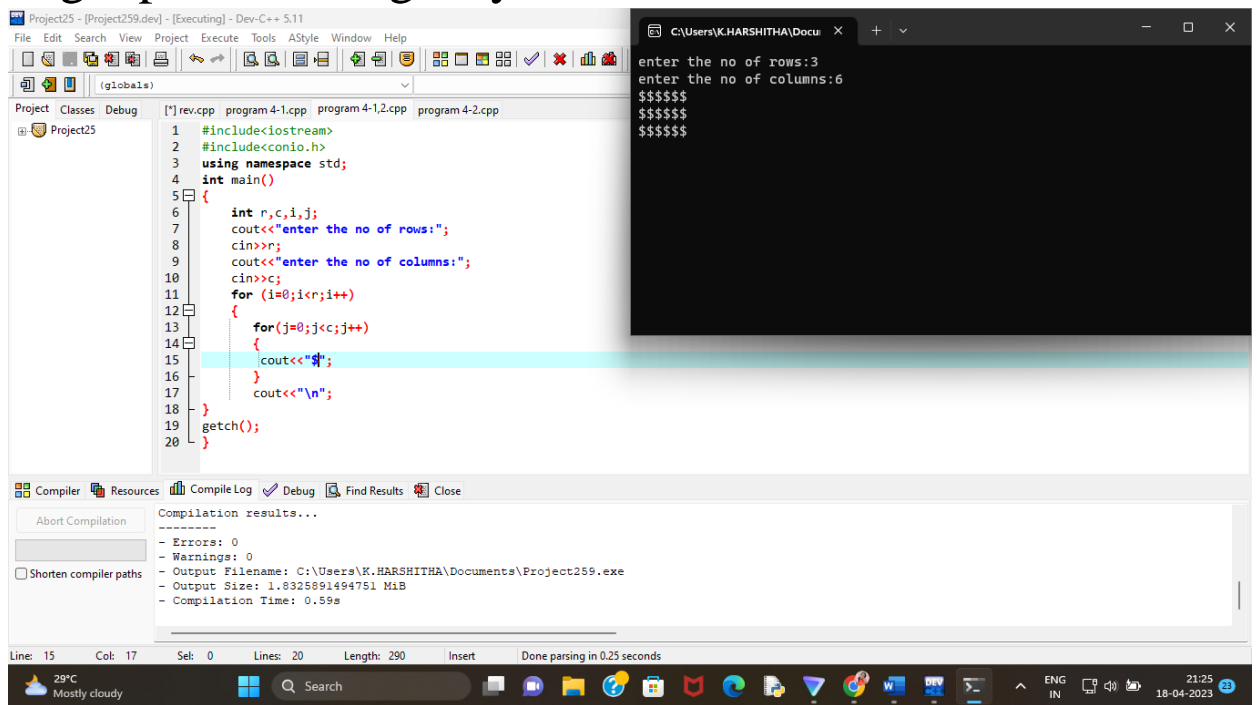
```
the string is:temple
the reverse string is:elpmet
-----
Process exited after 3.966 seconds with return value 0
Press any key to continue . . .
```

The compilation results at the bottom show 0 errors and 0 warnings.

2. Write a program to print square star and rectangle dollar pattern?

Output of the given program with source code:

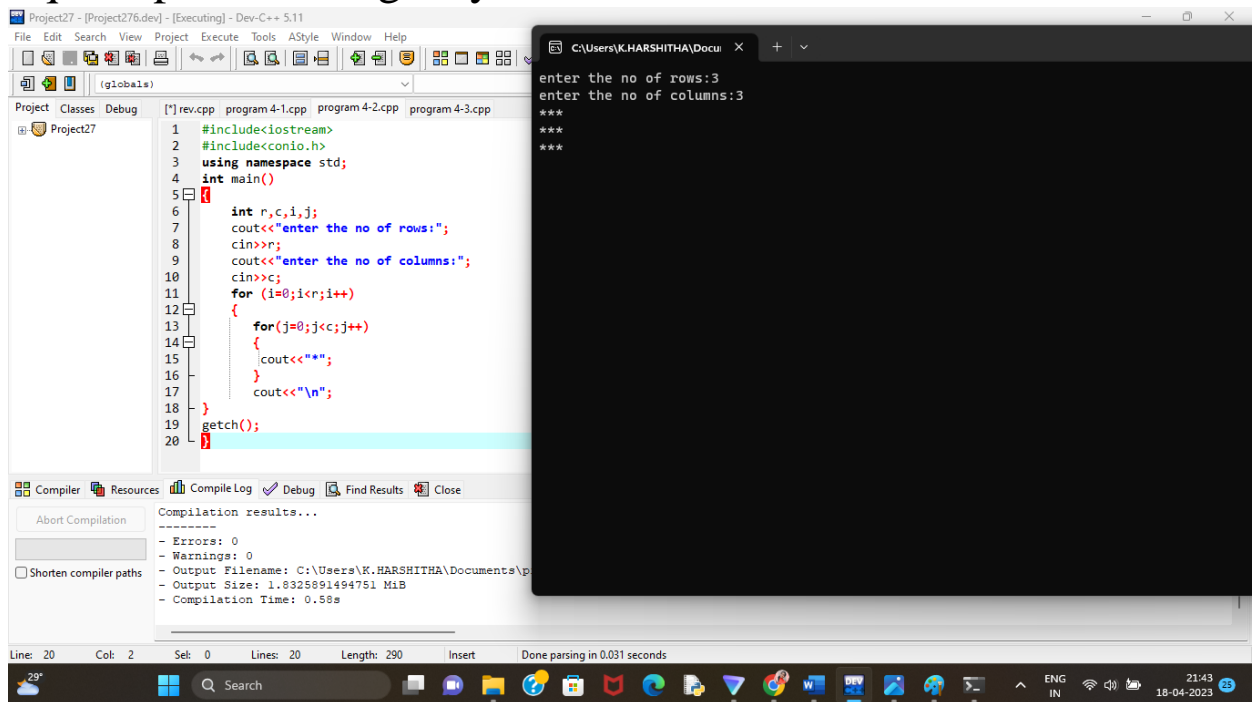
Rectangle pattern using \$ symbol:



```
1 #include<iostream>
2 #include<conio.h>
3 using namespace std;
4 int main()
5 {
6     int r,c,i,j;
7     cout<<"enter the no of rows:";
8     cin>>r;
9     cout<<"enter the no of columns:";
10    cin>>c;
11    for (i=0;i<r;i++)
12    {
13        for(j=0;j<c;j++)
14        {
15            cout<<"$";
16        }
17        cout<<"\n";
18    }
19    getch();
20 }
```

enter the no of rows:3
enter the no of columns:6
\$\$\$\$\$\$
\$\$\$\$\$\$
\$\$\$\$\$\$

Square pattern using * symbol:



```
1 #include<iostream>
2 #include<conio.h>
3 using namespace std;
4 int main()
5 {
6     int r,c,i,j;
7     cout<<"enter the no of rows:";
8     cin>>r;
9     cout<<"enter the no of columns:";
10    cin>>c;
11    for (i=0;i<r;i++)
12    {
13        for(j=0;j<c;j++)
14        {
15            cout<<"*";
16        }
17        cout<<"\n";
18    }
19    getch();
20 }
```

enter the no of rows:3
enter the no of columns:3

3. Write a program to count all the prime and composite numbers entered by the user.

Sample Input:

Enter the numbers

4

54

29

71

7

59

98

23

Sample Output:

Composite number:3

Prime number:5

Test cases:

1. 33, 41, 52, 61,73,90
2. TEN, FIFTY, SIXTY-ONE, SEVENTY-SEVEN, NINE
3. 45, 87, 09, 5.0 ,2.3, 0.4
4. -54, -76, -97, -23, -33, -98
5. 45, 73, 00, 50, 67, 44

Output for the given program with source code:

```
#include <iostream>
```

```
#include <cmath>
```

```
using namespace std;
```

```
bool isPrime(int num) {  
    if (num <= 1) {  
        return false;  
    }  
    int sqrtNum = sqrt(num);  
    for (int i = 2; i <= sqrtNum; i++) {  
        if (num % i == 0) {  
            return false;  
        }  
    }  
    return true;  
}
```

```
int main() {  
    int num, primeCount = 0, compositeCount = 0, count = 0;  
    const int maxcount= 10;  
    while (count < maxcount) {  
        cout << "Enter a number: ";
```

```

        cin >> num;
        if (isPrime(num)) {
            primeCount++;
        } else {
            compositeCount++;
        }
        count++;
    }

    cout << "Number of prime numbers entered: " << primeCount << endl;
    cout << "Number of composite numbers entered: " << compositeCount <<
endl;

    return 0;
}

```

The screenshot displays a C++ IDE with the source code for a program that checks for prime and composite numbers. The code is as follows:

```

7  if (num <= 1) {
8      return false;
9  }
10 int sqrtNum = sqrt(num);
11 for (int i = 2; i <= sqrtNum; i++) {
12     if (num % i == 0) {
13         return false;
14     }
15 }
16 return true;
17 }
18
19 int main() {
20     int num, primeCount = 0, compositeCount = 0, count = 0;
21     const int maxcount = 10;
22     while (count < maxcount) {
23         cout << "Enter a number: ";
24         cin >> num;
25         if (isPrime(num)) {
26             primeCount++;
27         } else {
28             compositeCount++;
29         }
30         count++;
31     }
32
33     cout << "Number of prime numbers entered: " << primeCount << endl;
34     cout << "Number of composite numbers entered: " << compositeCount << endl;
35
36     return 0;

```

The output window shows the following execution results:

```

Enter a number: 3
Enter a number: 4
Enter a number: 5
Enter a number: 6
Enter a number: 7
Enter a number: 8
Enter a number: 9
Enter a number: 0
Enter a number: 1
Number of prime numbers entered: 3
Number of composite numbers entered: 7

-----
Process exited after 11.74 seconds with return value 0
Press any key to continue . . .

```

The IDE also shows the compilation results, indicating 0 errors and 0 warnings.

4 Write a program to check the entered user name is valid or not. Get both the inputs from the user.

Sample Input:

Enter the user name: Saveetha@789

Reenter the user name: Saveetha@123

Sample Output:

User name is Invalid

Output for given program with source code:

```
#include<iostream>
using namespace std;
int main()
{
    string a,b;
    cout<<"enter the username:"<<endl;
    cin>>a;
    cout<<"reenter the username:"<<endl;
    cin>>b;
    if(a==b)
    {
        cout<<"username is valid";
    }
    else
    {
        cout<<"username is not valid";
    }
}
```

