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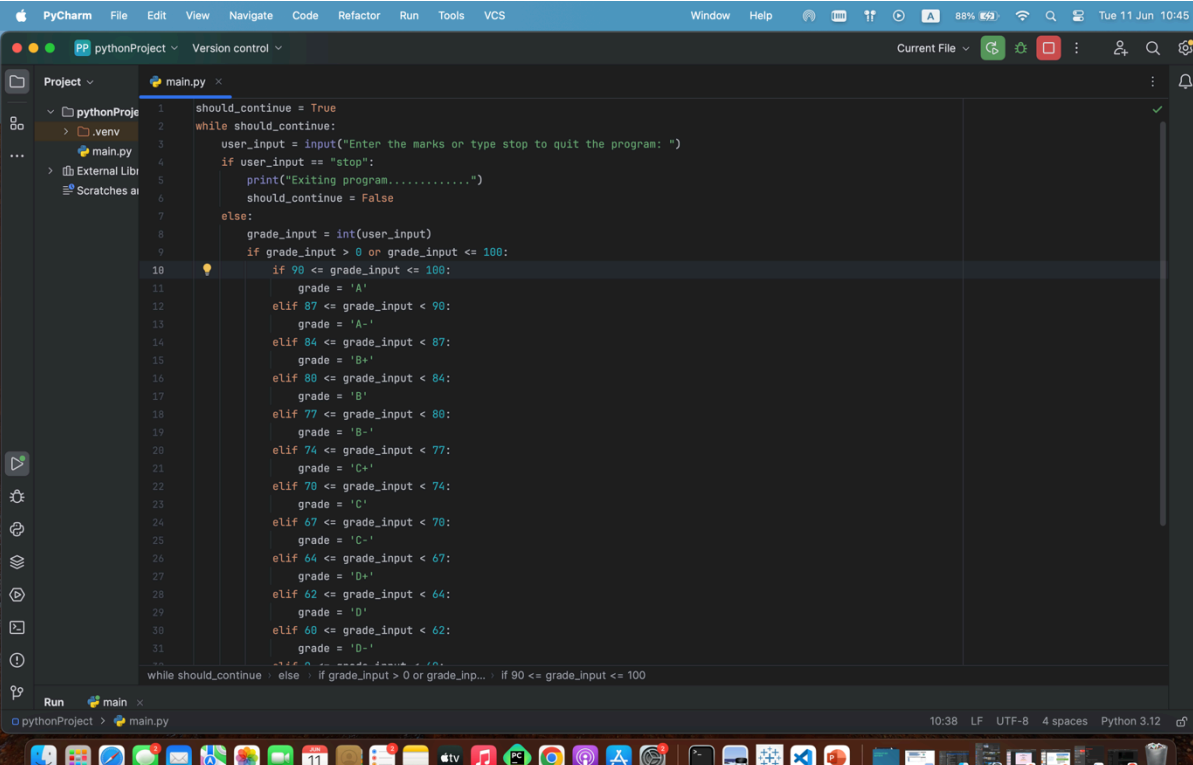
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Grade Program Assignment

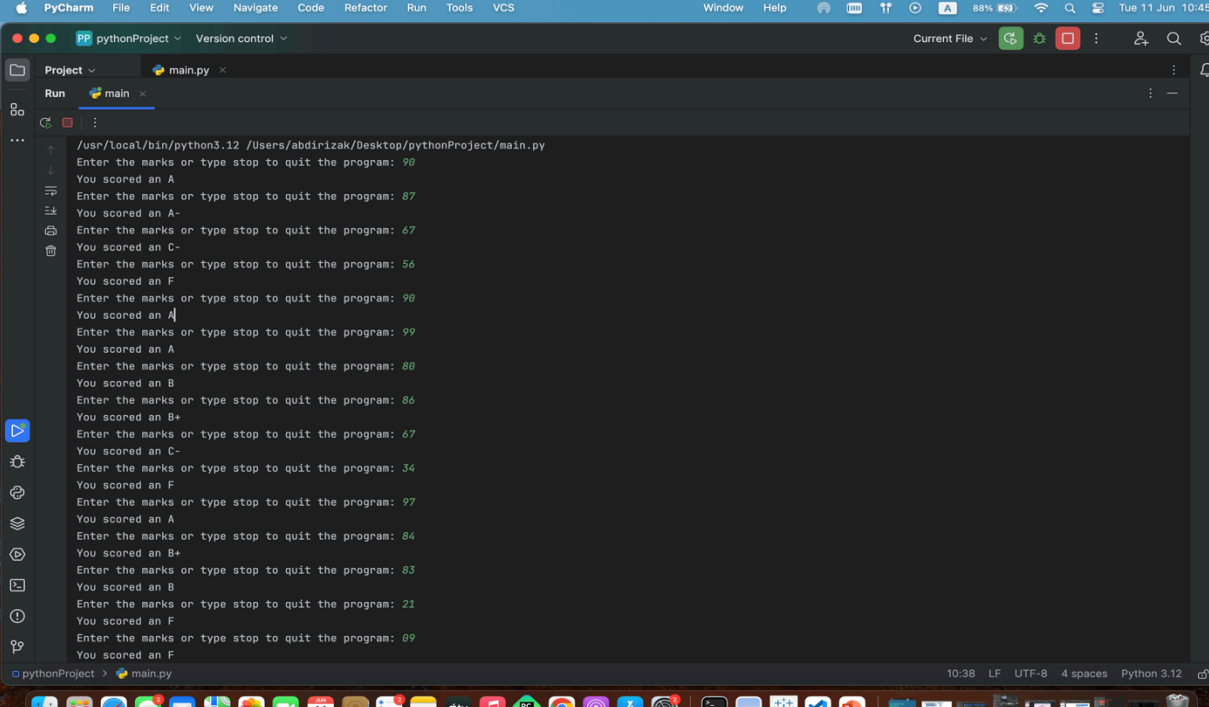
Python code



The image shows the PyCharm IDE with a Python file named `main.py` open. The code is a grade calculator that uses a `while` loop to repeatedly prompt the user for marks until they enter 'stop' or a valid mark between 0 and 100. The marks are then categorized into letter grades from 'A' to 'D-'. The status bar at the bottom indicates the file is encoded in UTF-8 with 4 spaces and is using Python 3.12.

```
1  should_continue = True
2  while should_continue:
3      user_input = input("Enter the marks or type stop to quit the program: ")
4      if user_input == "stop":
5          print("Exiting program.....")
6          should_continue = False
7      else:
8          grade_input = int(user_input)
9          if grade_input > 0 or grade_input <= 100:
10             if 90 <= grade_input <= 100:
11                 grade = 'A'
12             elif 87 <= grade_input < 90:
13                 grade = 'A-'
14             elif 84 <= grade_input < 87:
15                 grade = 'B+'
16             elif 80 <= grade_input < 84:
17                 grade = 'B'
18             elif 77 <= grade_input < 80:
19                 grade = 'B-'
20             elif 74 <= grade_input < 77:
21                 grade = 'C+'
22             elif 70 <= grade_input < 74:
23                 grade = 'C'
24             elif 67 <= grade_input < 70:
25                 grade = 'C-'
26             elif 64 <= grade_input < 67:
27                 grade = 'D+'
28             elif 62 <= grade_input < 64:
29                 grade = 'D'
30             elif 60 <= grade_input < 62:
31                 grade = 'D-'
32             while should_continue: else: if grade_input > 0 or grade_inp...: if 90 <= grade_input <= 100
```

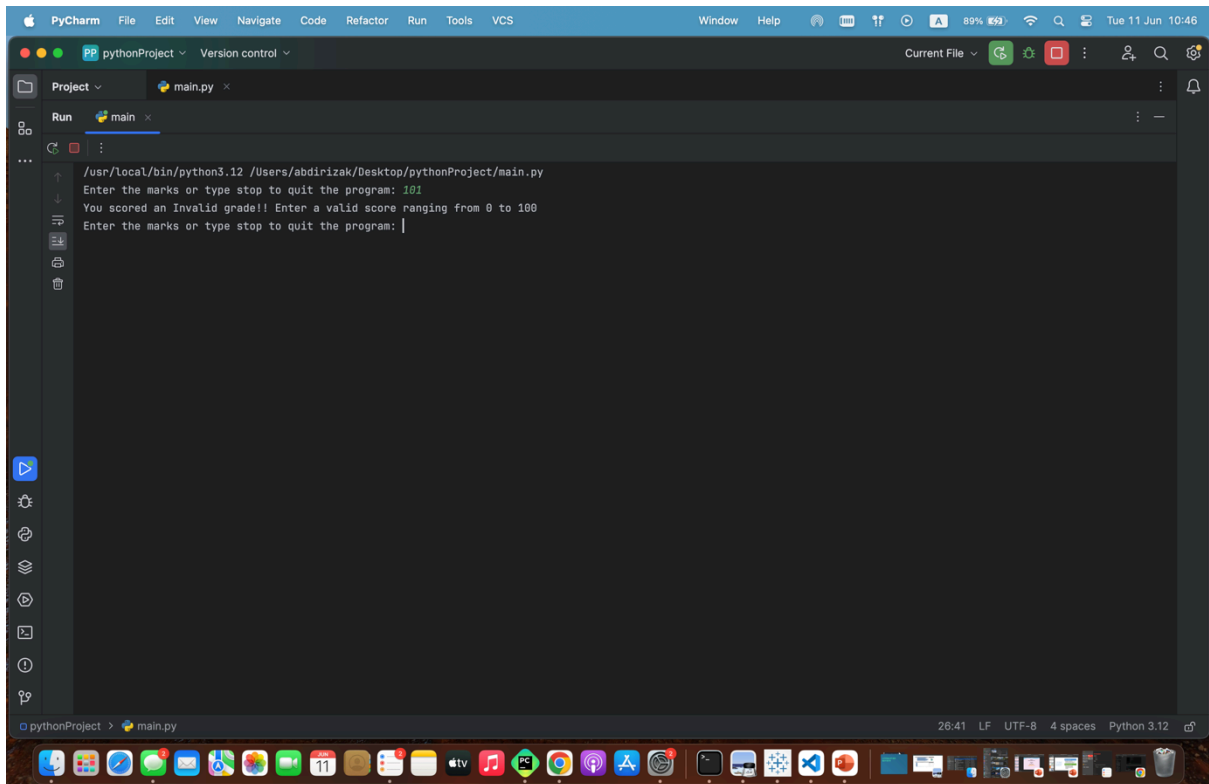
The output for the code



The image shows the PyCharm Run console output for the `main.py` file. It displays a series of prompts and user inputs, showing how the program calculates and assigns letter grades based on the input marks. The status bar at the bottom indicates the file is encoded in UTF-8 with 4 spaces and is using Python 3.12.

```
Run  main
/usr/local/bin/python3.12 /Users/abdirizak/Desktop/pythonProject/main.py
Enter the marks or type stop to quit the program: 90
You scored an A
Enter the marks or type stop to quit the program: 87
You scored an A-
Enter the marks or type stop to quit the program: 67
You scored an C-
Enter the marks or type stop to quit the program: 56
You scored an F
Enter the marks or type stop to quit the program: 90
You scored an A
Enter the marks or type stop to quit the program: 99
You scored an A
Enter the marks or type stop to quit the program: 80
You scored an B
Enter the marks or type stop to quit the program: 86
You scored an B+
Enter the marks or type stop to quit the program: 67
You scored an C-
Enter the marks or type stop to quit the program: 34
You scored an F
Enter the marks or type stop to quit the program: 97
You scored an A
Enter the marks or type stop to quit the program: 84
You scored an B+
Enter the marks or type stop to quit the program: 83
You scored an B
Enter the marks or type stop to quit the program: 21
You scored an F
Enter the marks or type stop to quit the program: 89
You scored an F
```

The program displaying an error when the user enters a score greater than 100

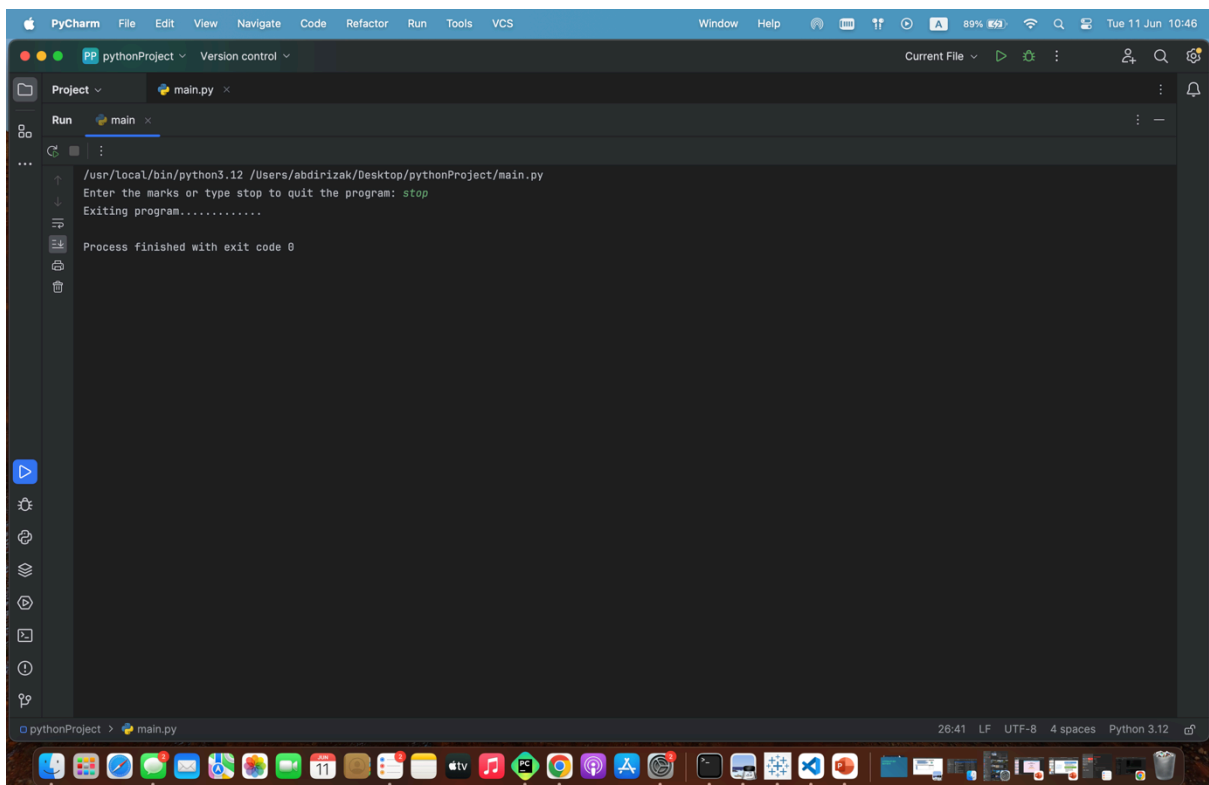


The screenshot shows the PyCharm IDE with the Run console open. The console output is as follows:

```
/usr/local/bin/python3.12 /Users/abdirizak/Desktop/pythonProject/main.py
Enter the marks or type stop to quit the program: 101
You scored an Invalid grade!! Enter a valid score ranging from 0 to 100
Enter the marks or type stop to quit the program: |
```

The status bar at the bottom indicates the file is `main.py` in the `pythonProject` directory, using Python 3.12.

The program terminating when the user's input is stop

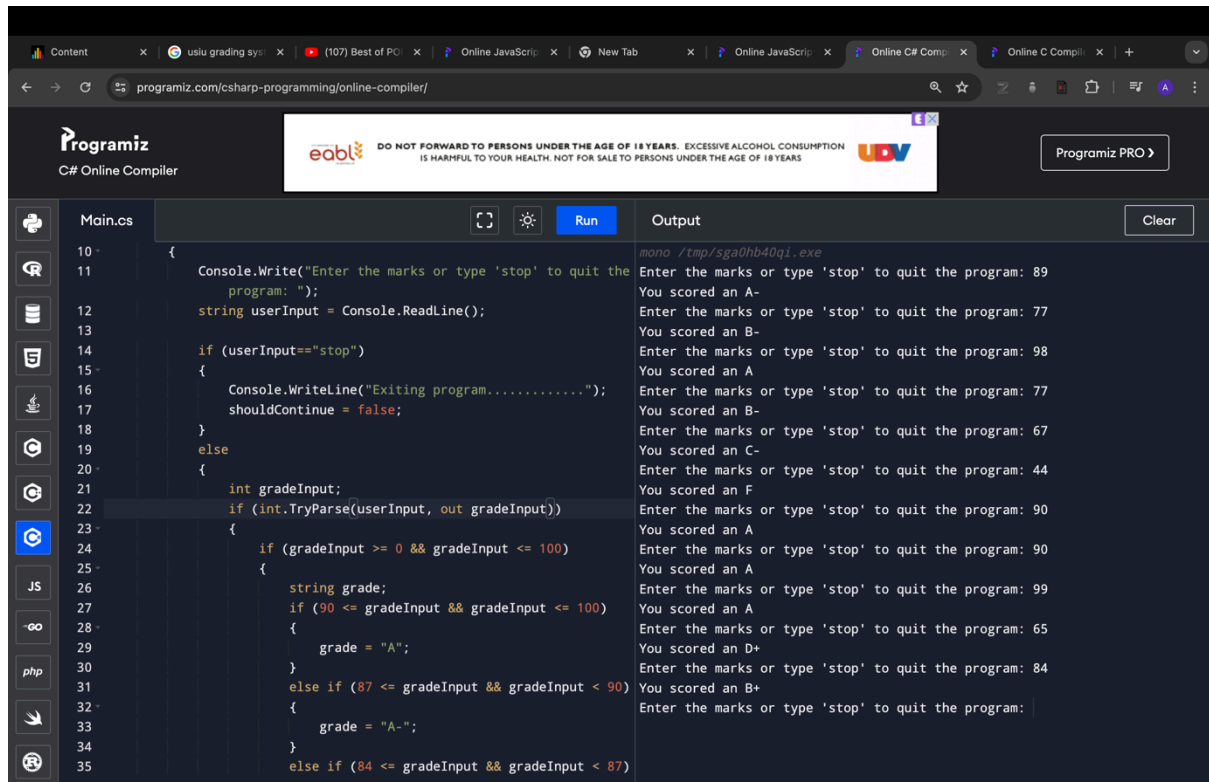


The screenshot shows the PyCharm IDE with the Run console open. The console output is as follows:

```
/usr/local/bin/python3.12 /Users/abdirizak/Desktop/pythonProject/main.py
Enter the marks or type stop to quit the program: stop
Exiting program.....
Process finished with exit code 0
```

The status bar at the bottom indicates the file is `main.py` in the `pythonProject` directory, using Python 3.12.

C# program code

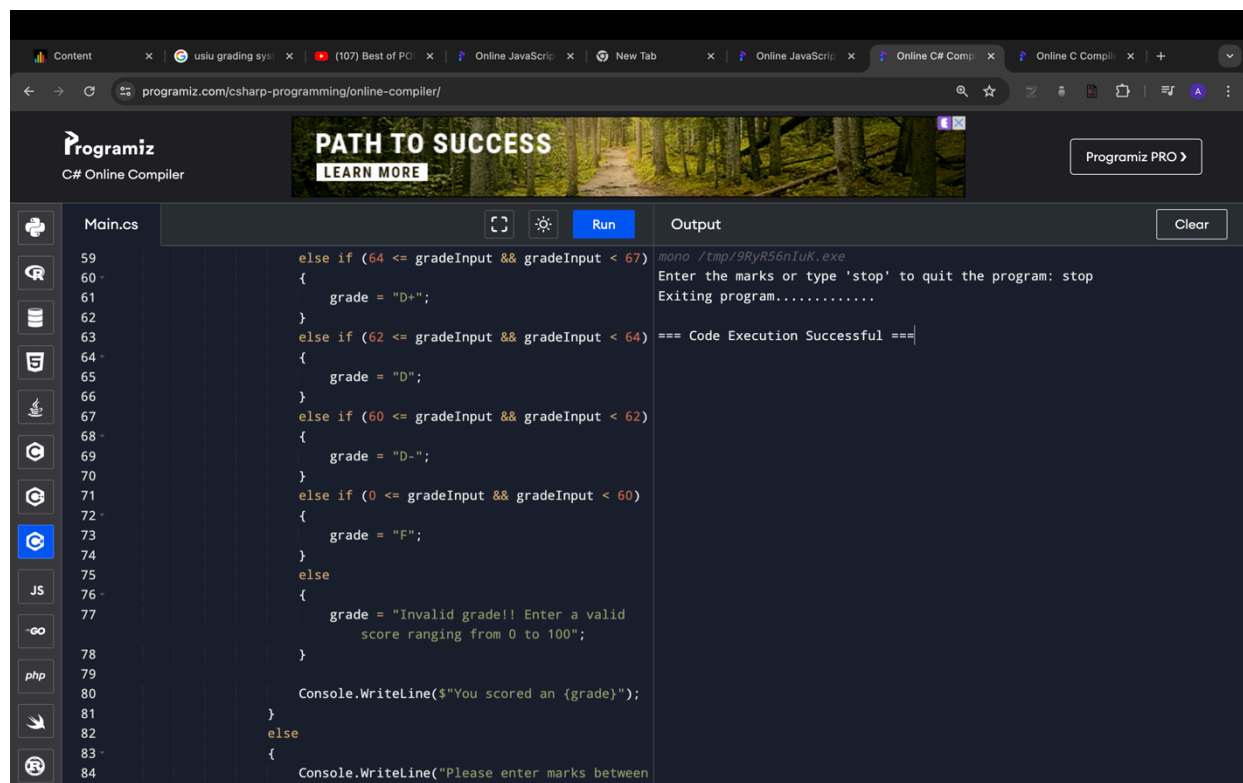


```
10 {
11     Console.WriteLine("Enter the marks or type 'stop' to quit the
12     program: ");
13     string userInput = Console.ReadLine();
14
15     if (userInput=="stop")
16     {
17         Console.WriteLine("Exiting program.....");
18         shouldContinue = false;
19     }
20     else
21     {
22         int gradeInput;
23         if (int.TryParse(userInput, out gradeInput))
24         {
25             if (gradeInput >= 0 && gradeInput <= 100)
26             {
27                 string grade;
28                 if (90 <= gradeInput && gradeInput <= 100)
29                 {
30                     grade = "A";
31                 }
32                 else if (87 <= gradeInput && gradeInput < 90)
33                 {
34                     grade = "A-";
35                 }
36                 else if (84 <= gradeInput && gradeInput < 87)
37                 {
38                     grade = "B";
39                 }
40                 else if (81 <= gradeInput && gradeInput < 84)
41                 {
42                     grade = "B-";
43                 }
44                 else if (78 <= gradeInput && gradeInput < 81)
45                 {
46                     grade = "C";
47                 }
48                 else if (75 <= gradeInput && gradeInput < 78)
49                 {
50                     grade = "C-";
51                 }
52                 else if (72 <= gradeInput && gradeInput < 75)
53                 {
54                     grade = "D";
55                 }
56                 else if (69 <= gradeInput && gradeInput < 72)
57                 {
58                     grade = "D-";
59                 }
60                 else if (64 <= gradeInput && gradeInput < 67)
61                 {
62                     grade = "D+";
63                 }
64                 else if (62 <= gradeInput && gradeInput < 64)
65                 {
66                     grade = "D";
67                 }
68                 else if (60 <= gradeInput && gradeInput < 62)
69                 {
70                     grade = "D-";
71                 }
72                 else if (0 <= gradeInput && gradeInput < 60)
73                 {
74                     grade = "F";
75                 }
76                 else
77                 {
78                     grade = "Invalid grade!! Enter a valid
79                     score ranging from 0 to 100";
80                 }
81                 Console.WriteLine($"You scored an {grade}");
82             }
83             else
84             {
85                 Console.WriteLine("Please enter marks between
86                 0 and 100");
87             }
88         }
89     }
90 }
```

Output

```
mono /tmp/sga0hb40q1.exe
Enter the marks or type 'stop' to quit the program: 89
You scored an A-
Enter the marks or type 'stop' to quit the program: 77
You scored an B-
Enter the marks or type 'stop' to quit the program: 98
You scored an A
Enter the marks or type 'stop' to quit the program: 77
You scored an B-
Enter the marks or type 'stop' to quit the program: 67
You scored an C-
Enter the marks or type 'stop' to quit the program: 44
You scored an F
Enter the marks or type 'stop' to quit the program: 90
You scored an A
Enter the marks or type 'stop' to quit the program: 90
You scored an A
Enter the marks or type 'stop' to quit the program: 99
You scored an A
Enter the marks or type 'stop' to quit the program: 65
You scored an D+
Enter the marks or type 'stop' to quit the program: 84
You scored an B+
Enter the marks or type 'stop' to quit the program: 
```

The program terminating when the user's input is stop

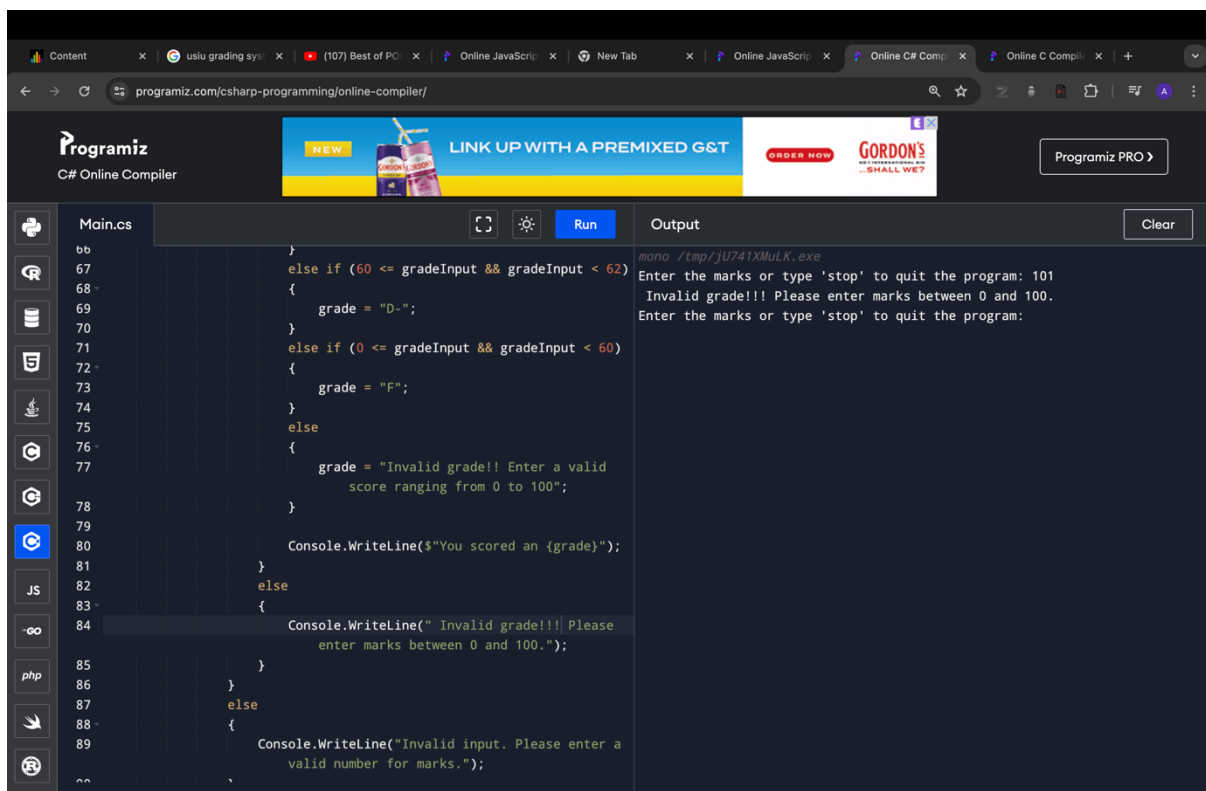


```
59     else if (64 <= gradeInput && gradeInput < 67)
60     {
61         grade = "D+";
62     }
63     else if (62 <= gradeInput && gradeInput < 64)
64     {
65         grade = "D";
66     }
67     else if (60 <= gradeInput && gradeInput < 62)
68     {
69         grade = "D-";
70     }
71     else if (0 <= gradeInput && gradeInput < 60)
72     {
73         grade = "F";
74     }
75     else
76     {
77         grade = "Invalid grade!! Enter a valid
78         score ranging from 0 to 100";
79     }
80     Console.WriteLine($"You scored an {grade}");
81 }
82 else
83 {
84     Console.WriteLine("Please enter marks between
85     0 and 100");
86 }
```

Output

```
mono /tmp/9RyR56nIuK.exe
Enter the marks or type 'stop' to quit the program: stop
Exiting program.....
=== Code Execution Successful ===
```

The program displaying an error when the user enters a score greater than 100



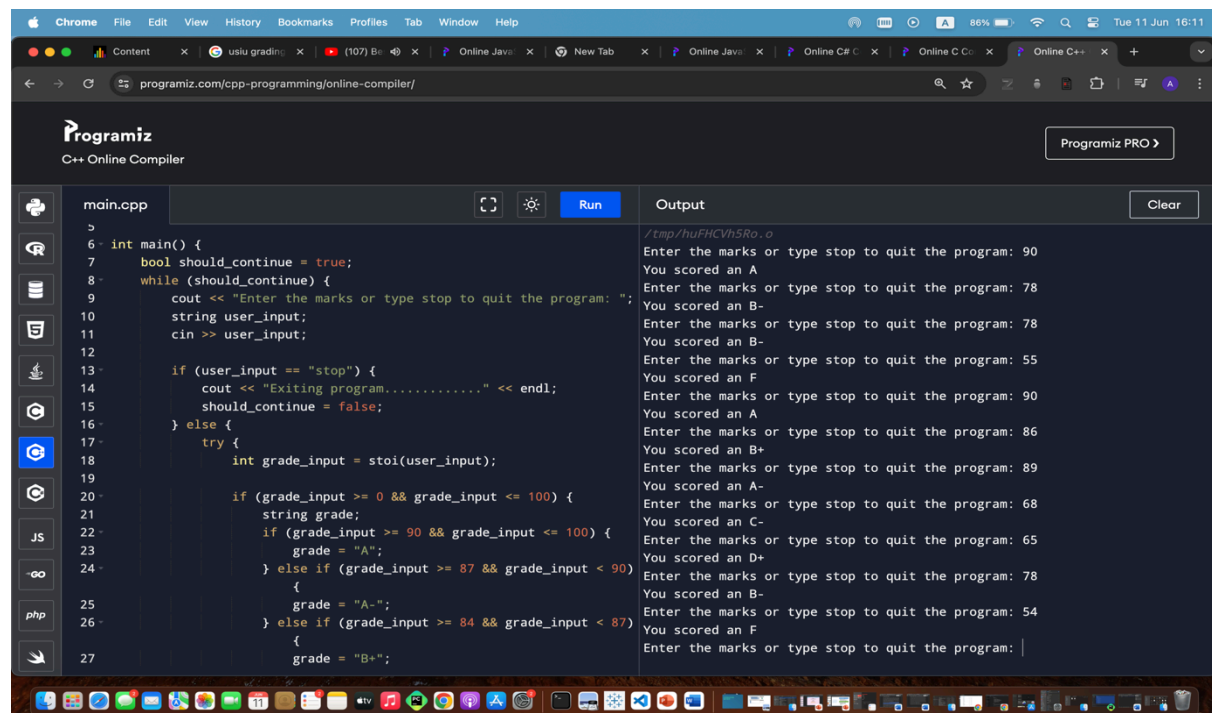
The screenshot shows the Programiz C# Online Compiler interface. The code in `Main.cs` is as follows:

```
66 }
67 else if (60 <= gradeInput && gradeInput < 62)
68 {
69     grade = "D-";
70 }
71 else if (0 <= gradeInput && gradeInput < 60)
72 {
73     grade = "F";
74 }
75 else
76 {
77     grade = "Invalid grade!! Enter a valid
       score ranging from 0 to 100";
78 }
79
80 Console.WriteLine($"You scored an {grade}");
81 }
82 else
83 {
84     Console.WriteLine(" Invalid grade!!! Please
       enter marks between 0 and 100.");
85 }
86 }
87 else
88 {
89     Console.WriteLine("Invalid input. Please enter a
       valid number for marks.");
90 }
```

The output shows the program execution results:

```
mono /tmp/fjU741XMuLK.exe
Enter the marks or type 'stop' to quit the program: 101
Invalid grade!!! Please enter marks between 0 and 100.
Enter the marks or type 'stop' to quit the program:
```

C++



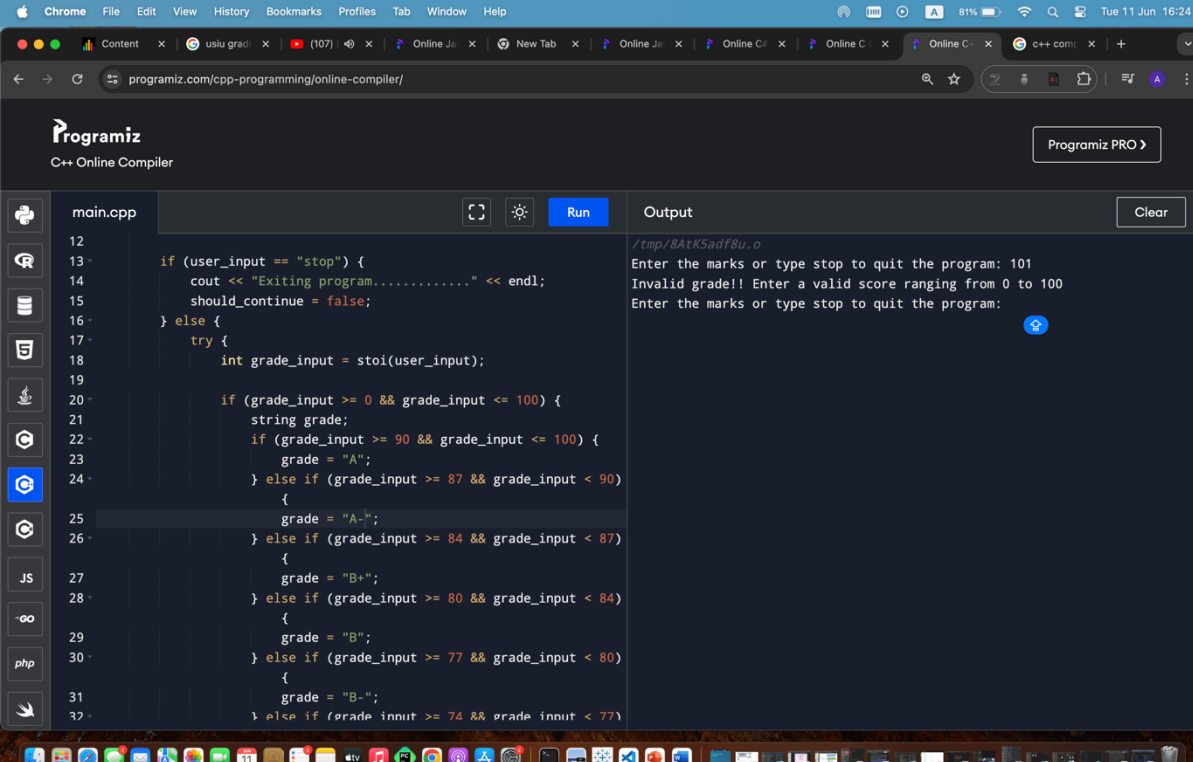
The screenshot shows the Programiz C++ Online Compiler interface. The code in `main.cpp` is as follows:

```
5
6 int main() {
7     bool should_continue = true;
8     while (should_continue) {
9         cout << "Enter the marks or type stop to quit the program: ";
10        string user_input;
11        cin >> user_input;
12
13        if (user_input == "stop") {
14            cout << "Exiting program....." << endl;
15            should_continue = false;
16        } else {
17            try {
18                int grade_input = stoi(user_input);
19
20                if (grade_input >= 0 && grade_input <= 100) {
21                    string grade;
22                    if (grade_input >= 90 && grade_input <= 100) {
23                        grade = "A";
24                    } else if (grade_input >= 87 && grade_input < 90) {
25                        grade = "A-";
26                    } else if (grade_input >= 84 && grade_input < 87) {
27                        grade = "B+";
```

The output shows the program execution results:

```
/tmp/huFHCvH5Ro.o
Enter the marks or type stop to quit the program: 90
You scored an A
Enter the marks or type stop to quit the program: 78
You scored an B-
Enter the marks or type stop to quit the program: 78
You scored an B-
Enter the marks or type stop to quit the program: 55
You scored an F
Enter the marks or type stop to quit the program: 90
You scored an A
Enter the marks or type stop to quit the program: 86
You scored an B+
Enter the marks or type stop to quit the program: 89
You scored an A-
Enter the marks or type stop to quit the program: 68
You scored an C-
Enter the marks or type stop to quit the program: 65
You scored an D+
Enter the marks or type stop to quit the program: 78
You scored an B-
Enter the marks or type stop to quit the program: 54
You scored an F
Enter the marks or type stop to quit the program: |
```

The program displaying an error when the user enters a score greater than 100



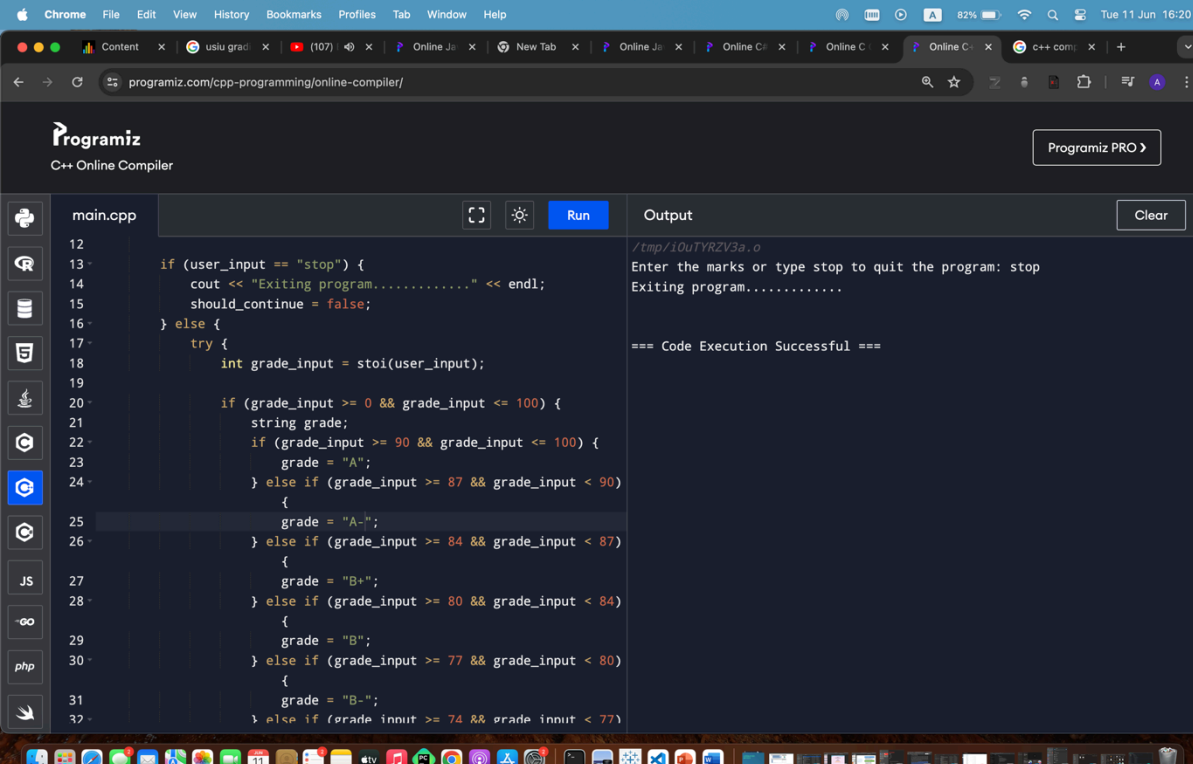
The screenshot shows the Programiz C++ Online Compiler interface. The code in `main.cpp` is as follows:

```
12
13
14 if (user_input == "stop") {
15     cout << "Exiting program....." << endl;
16     should_continue = false;
17 } else {
18     try {
19         int grade_input = stoi(user_input);
20
21         if (grade_input >= 0 && grade_input <= 100) {
22             string grade;
23             if (grade_input >= 90 && grade_input <= 100) {
24                 grade = "A";
25             } else if (grade_input >= 87 && grade_input < 90) {
26                 grade = "A-";
27             } else if (grade_input >= 84 && grade_input < 87) {
28                 grade = "B+";
29             } else if (grade_input >= 80 && grade_input < 84) {
30                 grade = "B";
31             } else if (grade_input >= 77 && grade_input < 80) {
32                 grade = "B-";
33             } else if (grade_input >= 74 && grade_input < 77) {
```

The output shows the program's execution with the input `101`:

```
/tmp/8AtK5adf8u.o
Enter the marks or type stop to quit the program: 101
Invalid grade!! Enter a valid score ranging from 0 to 100
Enter the marks or type stop to quit the program:
```

The program terminating when the user's input is stop



The screenshot shows the Programiz C++ Online Compiler interface with the same code as the previous image. The output shows the program's execution with the input `stop`:

```
/tmp/i0uTYRZV3a.o
Enter the marks or type stop to quit the program: stop
Exiting program.....

=== Code Execution Successful ===
```