

**Program 4-10**

```

1  // This program demonstrates the nested if statement.
2  #include <iostream>
3  using namespace std;
4
5  int main()
6  {
7      char employed,    // Currently employed, Y or N
8          recentGrad;   // Recent graduate, Y or N
9
10     // Is the user employed and a recent graduate?
11     cout << "Answer the following questions\n";
12     cout << "with either Y for Yes or ";
13     cout << "N for No.\n";
14     cout << "Are you employed? ";
15     cin >> employed;
16     cout << "Have you graduated from college ";
17     cout << "in the past two years? ";
18     cin >> recentGrad;
19
20     // Determine the user's loan qualifications.
21     if (employed == 'Y')
22     {
23         if (recentGrad == 'Y') //Nested if
24         {
25             cout << "You qualify for the special ";
26             cout << "interest rate.\n";
27         }
28     }
29     return 0;
30 }

```

**Program Output with Example Input Shown in Bold**

Answer the following questions  
 with either Y for Yes or N for No.  
 Are you employed? **Y [Enter]**  
 Have you graduated from college in the past two years? **Y [Enter]**  
 You qualify for the special interest rate.

**Program Output with Different Example Input Shown in Bold**

Answer the following questions  
 with either Y for Yes or N for No.  
 Are you employed? **Y [Enter]**  
 Have you graduated from college in the past two years? **N [Enter]**

Look at the if statement that begins in line 21. It tests the expression `employed == 'Y'`. If this expression is true, the if statement that begins in line 23 is executed. Otherwise the program jumps to the return statement in line 29 and the program ends.

Notice in the second sample execution of Program 4-10 that the program output does not inform the user whether he or she qualifies for the special interest rate. If the user enters an 'N' (or any character other than 'Y') for `employed` or `recentGrad`, the program does not

print a message letting the user know that he or she does not qualify. An else statement should be able to remedy this, as illustrated by Program 4-11.

### Program 4-11

```

1  // This program demonstrates the nested if statement.
2  #include <iostream>
3  using namespace std;
4
5  int main()
6  {
7      char employed,    // Currently employed, Y or N
8          recentGrad;  // Recent graduate, Y or N
9
10     // Is the user employed and a recent graduate?
11     cout << "Answer the following questions\n";
12     cout << "with either Y for Yes or ";
13     cout << "N for No.\n";
14     cout << "Are you employed? ";
15     cin >> employed;
16     cout << "Have you graduated from college ";
17     cout << "in the past two years? ";
18     cin >> recentGrad;
19
20     // Determine the user's loan qualifications.
21     if (employed == 'Y')
22     {
23         if (recentGrad == 'Y') // Nested if
24         {
25             cout << "You qualify for the special ";
26             cout << "interest rate.\n";
27         }
28         else // Not a recent grad, but employed
29         {
30             cout << "You must have graduated from ";
31             cout << "college in the past two\n";
32             cout << "years to qualify.\n";
33         }
34     }
35     else // Not employed
36     {
37         cout << "You must be employed to qualify.\n";
38     }
39     return 0;
40 }
```

### Program Output with Example Input Shown in Bold

```

Answer the following questions
with either Y for Yes or N for No.
Are you employed? N [Enter]
Have you graduated from college in the past two years? Y [Enter]
You must be employed to qualify.
```

(program output continues)