Learning Objective : Understand the mechanism of Nested if/else Statements

Step 1: Add the following lab6.cpp program. Here is a copy of the source code.

```
1 //
2 // This program determines the fee for a cat or dog pet tag.
3 // It uses nested if/else statements.
4 // PUT YOUR NAME HERE.
5 #include <iostream>
6 #include <string>
7 using namespace std;
8
9 int main()
10 { string pet;        // "cat" or "dog"
12   char spayed;       // 'y' or 'n'
13
14   // Get pet type and spaying information
15   cout << "Enter the pet type (cat or dog): ";
16   cin >> pet;
17   cout << "Has the pet been spayed or neutered (y/n)? ";
18   cin >> spayed;
19
20   // Determine the pet tag fee
21   if (pet == "cat")
22   { if (spayed == 'y')
23       cout << "Fee is $4.00 \n";
24     else
25       cout << "Fee is $8.00 \n";
26   }
27   else if (pet == "dog")
28   { if (spayed == 'y')
29       cout << "Fee is $6.00 \n";
30     else
31       cout << "Fee is $12.00 \n";
```

```
32   }
33   else
34      cout << "Only cats and dogs need pet tags. \n";
35
36   return 0;
37 }
```

Step 2: Compile the program and then run it 7 times. For each run use the input test data shown in the table below and write down the fee information that is displayed. Indicate whether or not the displayed information seems to be correct or not.

Run	Input data	Fee Information	Correct?
1	cat y	$4.00	Yes
2	cat n	$8.00	Yes
3	cat Y	$8.00	No
4	dog y	$6.00	Yes
5	dog n	$12.00	Yes
6	dog Y	$12.00	No
7	hamster n	Only cats and dog need pet tag	Yes

Step 3: Improve the program in the following two ways.

- Use a logical OR on lines 22 and 28 so that either a lowercase 'y' or an uppercase 'Y' is accepted.

- Currently when an animal other than a cat or dog is entered (such as a hamster), the program asks if it is spayed or neutered before displaying the message that only cats and dogs need pet tags. Find a way to make the program only execute the spay/neuter prompt and input when the pet type is cat or dog.

Step 4: Recompile your revised program and test it with the same 7 test cases given in the previous table. Make sure it works correctly for all 7 cases.

Step 5: Submit your program under Lab6.cpp online