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Chapter 3

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If Statement Worksheet

Write a c++ <u>if</u> statement for each situation. You also need to write additional code to respond to the conditions.

1. parts_on_hand is an integer representing the number of parts on hand. If the number of parts on hand drops below 50, call the reorder() function.

```cpp
if (parts_on_hand < 50)
  {
    reorder();
  }
```

2. The user was supposed to type in 10 numbers. num_data_points tells how many numbers the user typed. If the user entered less than ten points, print an error message.

```cpp
if (num_data_points < 10)
  {
    cout << "Error: You have not entered 10 numbers\n";
  }
```

3. A value has been entered into the double variable current_asset. If the value is positive, (this means it is greater than 0), add it to the double variable total_value.

```cpp
if (current_asset > 0)
  {
    total_value += current_asset;
  }
```

4. The integer variable parts_sold contains the number of parts sold during the last sale. The integer variable total_parts_sold contains the total number of parts sold since the company started (excluding the last sale.) If the new total number of parts sold (a calculation is necessary here!) is greater than or equal to 1,000,000, print "Goal achieved".

```cpp
if ((parts_sold+total_parts_sold) >= 1000000)
  {
    cout << "Goal achieved\n";
  }
```

5. The double precision variable invoice_amount contains the amount of money a customer owes. due_date is a string variable that contains the date the amount is due and todays_date is a string variable containing today's date. If the bill is late, add a 10% late fee. Store the total in the variable amount_due.

```cpp
if (due_date.compare(todays_date) <= 0)
  //due date must be smaller than today's date
  {
```

```
    amount_due = invoice_amount * 1.1;
}
```

1. The company you work for is selling tickets to an event. Adult tickets cost $15, while children's tickets cost $5. The character variable ticket_class contains A or C. Set the int variable ticket_price to the correct amount based on ticket_class.

```cpp
if (ticket_class.compare("A") == 0)
{
  ticket_price = 15;
}
else
{
  ticket_price = 5;
}
```

2. You are scoring a test. The integer variable my_Answer contains the answer to a problem on the test. The integer variable correct_answer contains the correct answer to the problem. The integer variable test_score contains the student's score. If the answer was correct, add 10 points to the student's score. If the answer was incorrect, subtract two points from the score.

```cpp
if (my_Answer == correct_answer)
{
  test_score += 10;
}
else
{
  test_score -= 2;
}
```

3. You are programming a computer game. The player comes to a tee in the road and has to make a choice: Should the player turn left or right? The character variable player_choice contains L or R, indicating the choice. If the player turns right, print "You win the gold!" If the player turns left, print "You were eaten by a tiger."

```cpp
if (player_choice == 'R')
{
  cout << "You win the gold!\n";
}
else
{
  cout << "You were eaten by a tiger.\n";
}
```

4. You have guests coming over for dinner. If your friend comes, you need to make cookies for dessert. If your sister comes, you need to bake a pie. The character variable whos_coming contains S for sister, F for friend. Set the String variable dessert_feature to "Pie" or "Cookies" based on who's coming to dinner.

```cpp
if (whos_coming == 'S')
{
  dessert_feature = "Pie";
}
else
```

```
   {
     dessert_feature = "Cookies";
   }
```

5. (This one is a more challenging.) There are three categories of words, short (3 letters or fewer), medium (4 to 7 letters), and long (more than 7 letters.) The length of a word is stored in the integer variable word_len. Set the string variable word_type to "SHORT", "MEDIUM" or "'LONG" depending on the length of the word.

```
if (word_len <= 3)
{
  word_type = "SHORT";
}
else if (word_len >= 4 && word_len <= 7)
{
  word_type = "MEDIUM";
}
else
{
  word_type = "LONG";
}
```