Breakout Room 6 (Pradyumn Acharya, Ellen Fang, Kayley Seow)

Chapter 3

Complex If Statements Worksheet

More if statements (These will use and, or not.)
Write the if statements described below.

1. Values typed in for the integer variable numCustomers must be between LOWER_LIMIT and UPPER_LIMIT (being equal to the limits is okay.) Write an if statement that will print OK if numCustomers is within the limits or give an error message otherwise.

```
if (num_Customers >= LOWER_LIMIT && num_Customers <= UPPER_LIMIT)
{
  cout << "OK\n";
}
else
{
  cout << "Error: Your number is invalid in the current range.\n";
}
```

2. Write an if statement for this situation. If the value of the integer variable numOrdered is negative (less than 0) or greater than 50, print an error message and set the boolean variable validOrder to false.

```
if (numOrdered > 50 || numOrdered < 0)
{
  cout << "Error: Your number is invalid.\n";
  validOrder = false;
}
```

3. The user entered T (for tall) or S (for short), and it was stored in the character variable userSize. Then a height (integer) was asked for and stored in the variable userHeight. You should write an if that verifies the height and prints OK if the combination is valid or an error message if it is not. To be valid, if the user entered T, the height should be more than 72. If the user entered S, the height should be less than or equal to 72. Do this with one if using and, and else.

```
if ((userSize =='T'&& height >72) || (userSize == 'S' && height <=72))
{
  cout << "OK\n";
}
else
{
  cout << "Error: your combination is invalid.\n";
}
```

4. Valid part names are S (for SAW), H (for HAMMER), W (for WRENCH), and P (for PLIERS). The user is asked to type in the letter for a part name, and the letter will be

stored in the character variable toolType. You should check if the name is one of the four listed above. Write an if statement that prints an error message if it is not valid.

```
if (!(toolType=='S' || toolType=='H' || toolType=='W' || toolType=='P'))
{
  cout << "Error: your part name is invalid.\n";
}
```

5. A store's hours are Mon.–Fri. 8:00 a.m.–10:00 p.m., Saturday 10:00 a.m.–5:00 p.m., and Sunday 12:00 p.m.–5:00 p.m. The user will type in a day, which will be stored in the character variable dayName. (You can assume it is a valid day.) The values are S-Sunday, M-Monday, T-Tuesday, W-Wednesday, R-Thursday, F-Friday, A-Saturday. Write an if statement that will print a message giving the store's hours.

```
if (dayName == 'A') //Saturday
{
  cout << "Store Hours: 10:00 a.m.–5:00 p.m.\n";
}
else if (dayName == 'S') // Sunday
{
  cout << "Store Hours: 12:00 p.m.–5:00 p.m.\n";
}
else // Monday-Friday
{
  cout << "Store Hours: 8:00 a.m.–10:00 p.m.\n";
}
```