Learning Objectives:

1. Understand integer division and C-style casting.
2. Review the variables naming conventions and use that in the program.
3. Apply the order of operations in calculating a result.
4. Continue to practice using one of the Unix text editors (vi, emacs, pico, nano…) to write and edit your programs.

Arithmetic operations exercises

1. **Integer division**: Put the following in your program and pay attention to the outputs. What do you notice?

```
cout << "1/2 = " << 1 / 2 << endl;
cout << "1.0/2 = " << 1.0/2 << endl;
cout << "1/(double) 2 = " << 1/(double) 2 << endl << endl;
```

2. Write a C++ program that prompts for user name, today's temperature in Fahrenheit, and then performs the calculation of changing temperature to Celsius. You should
    1. Declare a string variable to store user name.
    2. Declare two double variables to store Fahrenheit and Celsius temperature.
    3. Perform arithmetic operation to convert Fahrenheit to Celsius.

        Celsius = 5/9 x (Fahrenheit – 32)
    4. Use commenting when necessary.
    5. Use meaningful variable names.
    6. Output the result.

Your output should look like this.

```
What is your name? Garfield
What is today's temperature in Fahrenheit? 86


Hello, Garfield.
Today's temperature is 30 Celsius.
```

Note: In vi text editor, if I want to go to line 23 in the program below, I will type **:23** in the command mode.

```
20      //Part 3
21      int numer1, numer2, denom1, denom2;
22      char dummychar;
23
24      cout << "Enter first fraction: ";
25      cin >> numer1 >> dummychar >> denom1;
26
27      cout << "Enter second fraction: ";
28      cin >> numer2 >> dummychar >> denom2;
29
30      cout << "Sum:\n\n";
31      cout << numer1 * denom2 + numer2 * denom1 << endl;
32      cout << "---" << endl;
33      cout << denom1 * denom2 << endl;
34
35      return 0;
36  }
```

To turn on the line numbers on the left, type **:set nu** in command mode. To turn off the line numbers, type **:set nonu** in command mode.