

PRACTICE EXERCISES - LAB 1 (Basics)

1. Write and run a Python program that outputs the value of each of the following expressions:

```
5.0/9.0
5.0/9
5/9.0
5/9
9.0/5.0
9.0/5
9/5.0
9/5
```

Based on your results, what is the rule for arithmetic operators when integers and floating point numbers are used?

2. Write and run a Python program that asks the user for a temperature in Celsius and converts and outputs the temperature in Fahrenheit.

3. Here is an algorithm to print out $n!$ (n factorial) from $0!$ to $19!$:

1. Set $f = 1$
2. Set $n = 0$
3. Repeat the following 20 times:
 - a. Output n , " $! =$ ", f
 - b. Add 1 to n
 - c. Multiply f by n

Using a `for` loop, write and run a Python program for this algorithm.

4. Modify the program above using a `while` loop so it prints out all of the factorial values that are less than 1 billion. (You should be able to do this without looking at the output of the previous exercise.)