1. What are the advantages of using Python *interactively*? What are the advantages of using Python to *execute scripts*?

2. Comment statements cannot be understood by Python. Why, then, is it useful to write comments?

Consider the following program, which takes as input a temperature in Fahrenheit and outputs the equivalent temperature in Celsius.

```python
    t = float(input('Enter the temperature in Farenheit: '))
    t = (5/9) * (t - 32)
    print('The equivalent temperature in Celcius is', t)
```

3. (a) In *reading* the program above, is it *clearer* to use a single variable for multiple purposes (i.e., how `temp` is used) or to have more than one variable each with a dedicated purpose? Explain with examples from the code.

   (b) In the program above, are the parentheses necessary to perform the conversion from Fahrenheit to Celsius? Explain what would happen if they were omitted.
4. Given a choice, would it be *clearer* to have variable names be short and easy to type, or longer and more descriptive? Explain using examples from the Fahrenheit-to-Celsius code from Problem 3.

5. Write expressions that:

(a) Compute the (integer) quotient when an integer \(a\) is divided by an integer \(b\)? (e.g. \(a=7, b=3\), results in 2)

(b) Compute the (integer) remainder when an integer \(a\) is divided by an integer \(b\)? (e.g. \(a=7, b=3\), results in 1)

(c) Exchange the values of variables \(i\) and \(j\).

6. Consider the two function definitions below.

   ```python
   def emoji(eye, nose):
       return eye + nose + eye
   def manyEmoji(num, eye, nose):
       print((emoji(eye, nose) + ' ') * num)
   ```

In the table below, fill in the blanks with what is printed (if nothing is printed, put down N/A) and what is returned for each function call given in the first column.  

<table>
<thead>
<tr>
<th>Function call</th>
<th>Printed</th>
<th>Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>emoji('*', '.')</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manyEmoji(2, 'o', '&lt;')</td>
<td></td>
<td></td>
</tr>
<tr>
<td>print(manyEmoji(2, 'o', '&lt;'))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*You may type out and test these functions on a computer if you'd like, but make sure to understand the underlying logic!