Please turn in answers to the following questions on Friday, in class.

1. Comments cannot be understood by Python. Why, then is it useful to write comments in our programs?

2. In Python, variable types are determined by their current values. For example, the statement

   \[ i = "spring!" \]

   implies \( i \) is a \texttt{str} type.

   (a) Can the type of a variable be changed? How?

   (b) Suppose you were reading a program. Would it be clearer to have a single variable used for multiple purposes or to have several variables each with a dedicated purpose? Why?

3. Given a choice, would you have variable names be short and easy to type, or longer and more descriptive? Why?

4. Write expressions that:

   (a) Compute the integer part of the quotient of integers \( a \) and \( b \)? (e.g. \( a, b = 5, 3 \), results in 1)

   (b) How about the fractional part of the quotient? (e.g. \( a, b = 5, 3 \), generates 0.666666)

   (c) Compute the nearest integer to floating point value \( f \)?
   
   (e.g. given \( f = 1.5 \), result is 2; given \( f = 3.141 \), the result is 3)
(d) Exchange the values of $i$ and $j$. (Hint: multiple assignment.)

5. The following commands assign $t$ to be the Universal Time (time in Greenwich, England) as measured in seconds since December 31, 1969, a Wednesday:

```python
from time import time
t = int(time())
```

Develop one or more mathematical expressions that result in an integer representing the current day of the week (in England). Let's agree that Sunday is coded as 0, Monday as 1, ..., Saturday as 6.