Variables: What can we name them?

• Variable names must start with a letter or the underscore ("_") character.
• After that, it can be followed by any number of letters, underscores, or digits.
• Variable names are case-sensitive, so “score” is different from “Score”.
• You must avoid using reserved words as variable names: these are words that have a special meaning in a programming language such as Python.
  - For example: def, str, print, etc.
  - IDLE displays reserved words in color to help you recognize them, which is useful since most people don’t know all of them.
Variables: What should we name them?

In addition to the hard-and-fast rules on the previous chart, there are also naming conventions that all (good) programmers obey:

- You should choose meaningful names that describe what the purpose of the variable is. This helps people reading the program (including you) understand what the code is doing.
  
  Use `max` rather than `m`

  Use `item` rather than `c`

- Variable names should begin with a lowercase letter.

- It is common to combine multiple words (such as `avgHeight`) into a variable name in order to be descriptive. When you do this, improve readability by using lowercase for the first “word” and uppercase for subsequent words. (This is called “camelCasing”.)
Keyboard Input

The `input()` function is used to read data from the user during program execution.

Format:

```
input (<prompt string>)
```

When it’s called:

- It displays the “prompt string”, a `str`. The intent is that it should be a message to the user that the program is waiting for the user to type in a string.
- It will wait until the user types something and hits the “Enter” or “Return” key.
- It returns whatever the user typed as a `str` as a `return value`. 
Mixed-Type Expressions

Most arithmetic operations behave as you would expect for all data types.

- Combining two floats results in an float.
- Combining two ints results in an int (provided you do division with //).
- Dividing two ints using float division is an exception: it behaves as you probably want it to. For instance, \( \frac{5}{2} \) gives you 2.5.

Python will figure out what the result should be and make the result the appropriate data type.
A program segment using assignment statements

Execute each of these statements in sequence (on paper, not using IDLE) and show what each one does. (Beware of tricks!)

```python
print ("Start here")
firstNum = 3 + (16 - 4) / 3
print ("The first number is: ")
secondNum = 13 % 2 - 1
print ("The second number is: secondNum")
thirdNum = secondNum + 5
secondNum = secondNum + 3
print ("The numbers are: ", firstNum,
     secondNum, thirdNum)
```