El futuro digital es de todos MinTIC

Week 2 Class 2

Student Worksheet

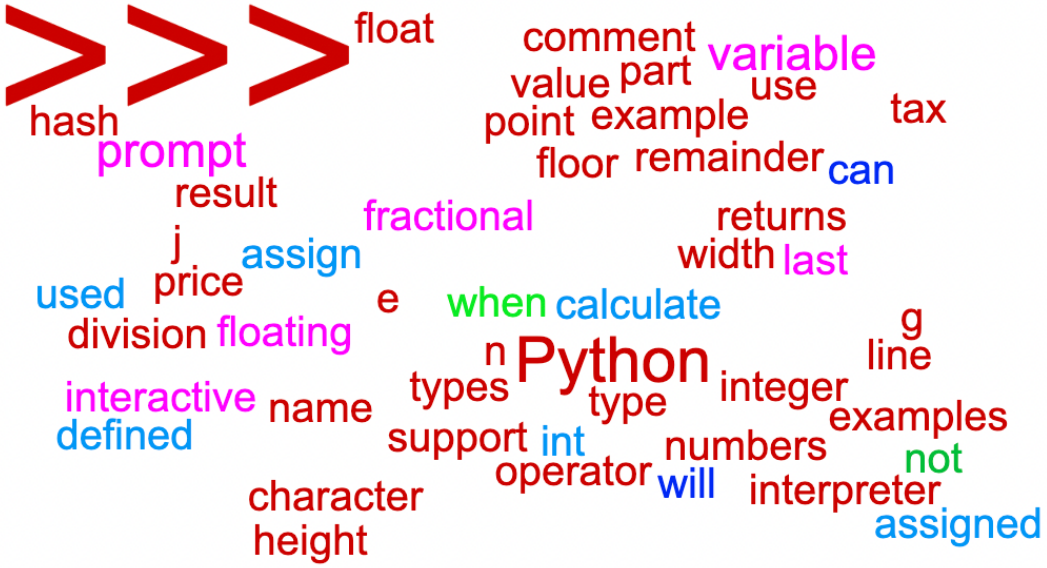
UNIVERSIDAD SERGIO ARBOLEDA

MisiónTIC 2022

Before you read

A. Predicting

Look at the Word Cloud of the most frequent words in the text you are going to read. Based on the vocabulary, can you predict what the text is about?
If you do not know the words, use a dictionary.



Keywords

Which words do you:

1. **know, can pronounce and can use in a sentence?**

2. **Do not know and have to look up in a dictionary?**

Check the dictionary and write down the words you do not know. You will need to later when you read the text.

B. Skimming

Skim the text and match the headings with the sections.

Section 1	_____	a. Additional types supported by Python
Section 2	_____	b. An Informal Introduction to Python
Section 2.1	_____	c. Using Python as a Calculator
Section 3	_____	d. Numbers

II. While you read

You are going to read an article about coding in Python and numbers. Before you read, decide whether the statements below are 'T' (true) or 'F' (false). Then read the text on the next page to confirm or correct your answers.

	True	False
1. Comments in Python start with a #.		
2. A comment can appear inside a string literal.		
3. The expression syntax in Python is similar to other languages because it uses similar symbols.		
4. There are 2 types of integer numbers: Int and float.		
5. Python only supports int and float numbers.		

Section 1. _____

In the following examples, input and output are distinguished by the presence or absence of prompts (>>> and ...): to repeat the example, you must type everything after the prompt, when the prompt appears; lines that do not begin with a prompt are output from the interpreter. Note that a secondary prompt on a line by itself in an example means you must type a blank line; this is used to end a multi-line command.

Many of the examples in this manual, even those entered at the interactive prompt, include comments. Comments in Python start with the hash character, #, and extend to the end of the physical line. A comment may appear at the start of a line or following whitespace or code, but not within a string literal. A hash character within a string literal is just a hash character. Since comments are to clarify code and are not interpreted by Python, they may be omitted when typing in examples.

Some examples:

```
# this is the first comment
spam = 1  # and this is the second comment
          # ... and now a third!
text = "# This is not a comment because it's inside quotes."
```

Section 2. _____

Let's try some simple Python commands. Start the interpreter and wait for the primary prompt, >>>. (It shouldn't take long.)

Section 2.1 _____

The interpreter acts as a simple calculator: you can type an expression at it and it will write the value. Expression syntax is straightforward: the operators +, -, * and / work just like in most other languages (for example, Pascal or C); parentheses (()) can be used for grouping. For example:

```
>>>
```

```
>>> 2 + 2
4
>>> 50 - 5*6
20
>>> (50 - 5*6) / 4
5.0
>>> 8 / 5  # division always returns a floating point number
1.6
```

The integer numbers (e.g. 2, 4, 20) have type int, the ones with a fractional part (e.g. 5.0, 1.6) have type float. We will see more about numeric types later in the tutorial.

Division (/) always returns a float. To do floor division and get an integer result (discarding any fractional result) you can use the // operator; to calculate the remainder you can use %:

```
>>>
>>> 17 / 3  # classic division returns a float
5.666666666666667
>>>
>>> 17 // 3  # floor division discards the fractional part
5
>>> 17 % 3  # the % operator returns the remainder of the
division
2
>>> 5 * 3 + 2  # result * divisor + remainder
17
```

With Python, it is possible to use the ** operator to calculate powers [1]:

```
>>>
>>> 5 ** 2  # 5 squared
25
>>> 2 ** 7  # 2 to the power of 7
128
```

The equal sign (=) is used to assign a value to a variable. Afterwards, no result is displayed before the next interactive prompt:

```
>>>
>>> width = 20
>>> height = 5 * 9
>>> width * height
900
```

If a variable is not “defined” (assigned a value), trying to use it will give you an error:

```
>>>
>>> n  # try to access an undefined variable
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
```

```
NameError: name 'n' is not defined
```

There is full support for floating point; operators with mixed type operands convert the integer operand to floating point:

```
>>>
```

```
>>> 4 * 3.75 - 1
14.0
```

In interactive mode, the last printed expression is assigned to the variable _. This means that when you are using Python as a desk calculator, it is somewhat easier to continue calculations, for example:

```
>>>
```

```
>>> tax = 12.5 / 100
>>> price = 100.50
>>> price * tax
12.5625
>>> price + _
113.0625
>>> round(_, 2)
113.06
```

This variable should be treated as read-only by the user. Don't explicitly assign a value to it — you would create an independent local variable with the same name masking the built-in variable with its magic behavior.

Section 3. _____

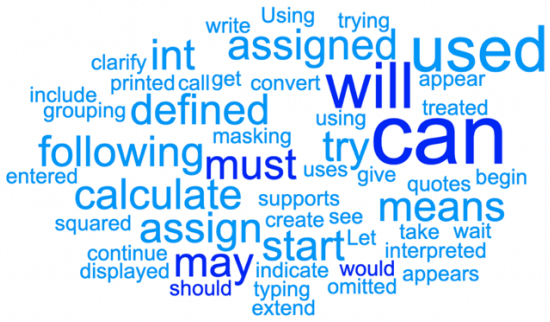
In addition to int and float, Python supports other types of numbers, such as Decimal and Fraction. Python also has built-in support for complex numbers, and uses the j or J suffix to indicate the imaginary part (e.g. 3+5j).

III. After you read

A. Vocabulary

1. The Word Cloud below show the most frequent verbs in the text. Find them and highlight them in the text. Do you know what they mean? **If not, look them up in a dictionary.**

   https://www.wordreference.com/



2. Common Adjectives in Python language

In Python literature, it is common to find adjectives. Look at the word cloud below. **Do you know all these adjectives?**

Adjectives usually go with nouns and form collocations: 2 or 3 words that usually go together. Here are some common collocations with the adjectives from the Cloud. Write your own definition for each one. You can ask your coding instructor to help you.

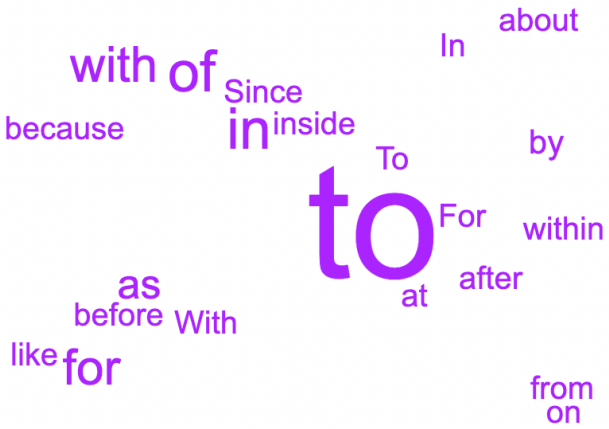
Collocation	Definition/translation
Floating point	
Interactive prompt	
Fractional part	
Primary prompt	

Some of the adjectives can also be nouns. Check the following words in the text and decide if they are adjective- describen algo, or they are noun- denominan un objeto o una persona.

Word	Adjective or Noun?	What does it mean?
Variable		
prompt		
Decimal		
Tutorial		

3. Prepositions and connectors

In your class, you learnt some prepositions to talk about place and time. The prepositions in the Word Cloud below are used in the text. Find them and organize them in the table below based on what they express in the text. You can also add your own category.



Time	
Place	
Sequence	
Company	
Comparison	
Add your category	
Add your category	

Answer Key

I. Before you read

C. Skimming

Skim the text and match the headings with the sections.

Section 1	_____b____	e. Additional types supported by Python
Section 2	_____c____	f. An Informal Introduction to Python
Section 2.1	_____d____	g. Using Python as a Calculator
Section 3	_____a____	h. Numbers

II. While you read

1. Comments in Python start with a #. T
2. A comment can appear inside a string literal. F
3. The expression syntax in Python is similar to other languages because it uses similar symbols. T
4. There are 2 types of integer numbers: Int and float. T
5. Python only supports int and float numbers. F

II. After you read

Word	Adjective or Noun?
Variable	Noun
prompt	Noun
Decimal	noun
Tutorial	noun

Time	/
Place	In, within
Sequence	After, before
Company	with
Comparison	like
Add your category Reason	Because of Since – debido a que
Add your category	