Verificación pre-silicio Primavera 2022

Lab#3: python_first scripts

Professor: **Rogelio Hernández Hernández**

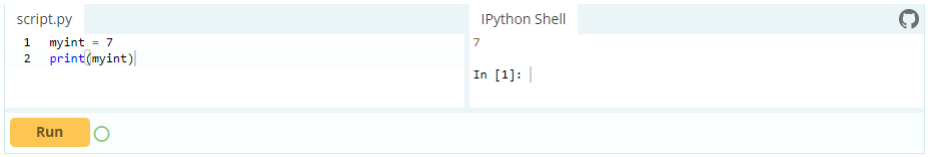
Work made by: **Christian Aaron Ortega Blanco**

Hermosillo, Son. 31 de mayo de 2022.

1. Review next resources and execute the examples and exercises in it.

- https://www.learnpython.org/en/Variables_and_Types

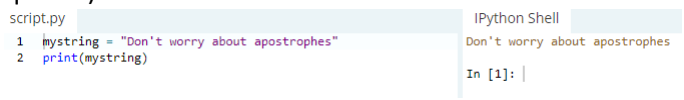
1. To define an integer, use the following syntax:



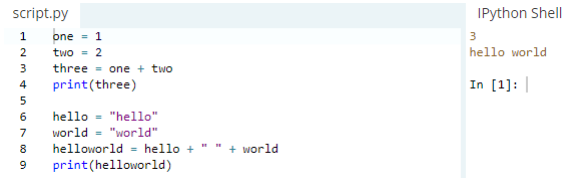
2. To define a floating-point number, you may use one of the following notations:

3. Strings are defined either with a single quote or a double quote.

4. The difference between the two is that using double quotes makes it easy to include apostrophes (whereas these would terminate the string if using single quotes)



5. Simple operators can be executed on numbers and strings:



6. Assignments can be done on more than one variable "simultaneously" on the same line like this:

7. Mixing operators between numbers and strings is not supported:

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script.py

```
# This will not work!
one = 1
two = 2
hello = "hello"

print(one + two + hello)
```

IPython Shell

```
Traceback (most recent call last):
  File "<stdin>", line 6, in <module>
    print(one + two + hello)
TypeError: unsupported operand type(s) for +: 'int' and 'str'

In [1]:
```

8. The target of this exercise is to create a string, an integer, and a floating point number. The string should be named mystring and should contain the word "hello". The floating point number should be named myfloat and should contain the number 10.0, and the integer should be named myint and should contain the number 20.

script.py | solution.py

```
# change this code
mystring = "hello"
myfloat = 10.0
myint = 20

# testing code
if mystring == "hello":
    print("String: %s" % mystring)
if isinstance(myfloat, float) and myfloat == 10.0:
    print("Float: %f" % myfloat)
if isinstance(myint, int) and myint == 20:
    print("Integer: %d" % myint)
```

IPython Shell

```
<script.py> output:
    String: hello
    Float: 10.000000
    Integer: 20

In [1]:
```

2. Write a script for next exercises.

- The volume of a sphere with radius r is 4/3 π r3. What is the volume of a sphere with radius 5?

main.py — Run — Shell

```
rad=5.0
pi=3.141592643589
vol=4.0/3.0*pi*rad**3
print("volume of the sphere:",vol)
```

```
volume of the sphere: 523.5987739315
>
```

- Suppose the cover price of a book is $24.95, but bookstores get a 40% discount. Shipping costs $3 for the first copy and 75 cents for each additional copy. What is the total wholesale cost for 60 copies?

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main.py

```
bookprice=24.95
discount=0.60
shippingF=3.00 #shipping cost of the first coppy
shippingA=0.75 #shipping cost for each aditional book
totalCop=60

booksdiscount=bookprice*discount
units=booksdiscount*totalCop

totalshipping=shippingF+(shippingA*59)
total=units+totalshipping
print("total cost for 60 copies: ", total)
```

Shell

```
total cost for 60 copies:  945.4499999999999
>
```

- Write a script for the exercise 2.a, which accept the radius from the user.

main.py

```
radius=float(input("enter radius:"))
pi=3.14159
volume=4.0/3.0*pi*radius**3
print("the volume of the sphere is: ", volume)
```

Shell

```
enter radius:4
the volume of the sphere is:  268.08234666666664
>
```