Variable and Output Function

How to define variable and Printing the Statement

Print Statement

- print is in-build Function
- () is mandatory in print
- String should be in quotation
- Number or variables has to be give without quotation
- The Python print statement is often used to output variables.

Output Variables

- You can use single, double or triple quotes for to print the statement
- No difference for single and double quotes

```
>>> print('hello world')
hello world
>>> print("hello world")
hello world
```

- But triple quotes used to print multi lines

```
>>> print("""hai
hello world
python programming""")
hai
hello world
python programming
```

Printing Numbers

- Printing numbers or variables it comes without quotes
- Comma which is used to separate two things

```
>>> print(12+34)
46
>>> print('12+34')
12+34
>>> print('12+34',12+34)
12+34 46
>>> print('12+34=',12+34)
12+34= 46
>>> print('12+34=',12+34,"something")
12+34= 46 something
```

Assignment

- Follow the same syntax and understand the Print concept
- Practice every line step by step

```
print ("I will now count my chickens:")
print ("Hens", 25 + 30 / 6)
print ("Roosters", 100 - 25 * 3 % 4)
print ("Now I will count the eggs:")
print (3 + 2 + 1 - 5 + 4 % 2 - 1 / 4 + 6)
print ("Is it true that 3 + 2 < 5 - 7?" )
print (3+2<5-7)
print ("What is 3 + 2?", 3+2)
print ("What is 5 - 7?", 5-7)
print ("Oh, that's why it's False.")
print ("How about some more.")
print ("Is it greater?", 5>-2)
print ("Is it greater or equal?", 5>=-2)
print ("Is it less or equal?", 5<=-2)
```

Variables

- A data item that may take on more than one value during the runtime of a program.
- Unlike other programming languages, Python has no command for declaring a variable.
- A variable is created the moment you first assign a value to it.
- Variables do not need to be declared with any particular type and can even change type after they have been set.

Variable Names

- A variable can have a short name (like x and y) or a more descriptive name (age, carname, total_volume).
- Rules for Python variables:
  - A variable name must start with a letter or the underscore character
  - A variable name cannot start with a number
  - A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
  - Variable names are case-sensitive (age, Age and AGE are three different variables)

```
>>> x=0.12
>>> Name="Python"
>>> Name_1=23
>>> Name1="analytics"
>>> Name 1="Pandas"
SyntaxError: invalid syntax
>>> Name@=23
Traceback (most recent call last):
  File "<pyshell#11>", line 1, in <module>
    Name@=23
TypeError: unsupported operand type(s) for @=: 'str' and 'int'
>>> _a=12
>>> a_=0.123
>>> name=123
>>> 1a=123
SyntaxError: invalid syntax
>>>
```

Assignment 2

- Print function with Variable Example
- Practice every line step by step

```
cars = 100
space_in_a_car = 4.0
drivers = 30
passengers = 90
cars_not_driven = cars - drivers
cars_driven = drivers
carpool_capacity = cars_driven * space_in_a_car
average_passengers_per_car = passengers / cars_driven
print("There are", cars, "cars available.")
print("There are only", drivers, "drivers available.")
print("There will be", cars_not_driven, "empty cars today.")
print("We can transport", carpool_capacity, "people today.")
print("We have", passengers, "to carpool today.")
print ("We need to put about", average_passengers_per_car, "in each car.")
```

Deleting Variable

- We can give two variables in a single line by using comma
- Assign multiple variables by using =
- del is a keyword to delete some variable from memory

```
>>> a,b=89,0.12
>>> a
89
>>> b
0.12
>>> x=y=z=12
>>> x
12
>>> y
12
>>> z
12
>>> del x
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#48>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
```

Checking Data Types

- type is an inbuilt function which is used to check the datatype of variables

```
>>> a=56
>>> x=0.12
>>> y=True
>>> z="String"
>>> type(a)
<class 'int'>
>>> type(x)
<class 'float'>
>>> type(z)
<class 'str'>
```

Good Job

Getting Input and Operator