



VAULTOFCODES

PRESENTATION ON PYTHON PROGRAMMING

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CONTENTS

Part 01 FUNCTIONS

Part 02 MODULES

Part 03 DATA MANIPULATION

FUNCTIONS

INTRODUCTION

- A function is like a mini-program within a program.
- In code, a function call is just the function's name followed by parentheses, possibly with some number of arguments in between the parentheses.
- When the program execution reaches these calls, it will jump to the top line in the function and begin executing the code there.
- When it reaches the end of the function, the execution returns to the line that called the function and continues moving through the code as before.
- Since this program calls `hello()` three times, the code in the `hello()` function is executed three times.

```
def hello():  
    print('Howdy!')  
    print('Howdy!!!')  
    print('Hello there.')  
  
hello()  
hello()  
hello()
```

def Statements with Parameters

- When we call the `print()` or `len()` function, we pass in values, called arguments in this context, by typing them between the parentheses.
- We can also define our own functions that accept arguments.

```
❶ def hello(name):  
❷     print('Hello ' + name)  
  
❸ hello('Alice')  
   hello('Bob')
```

```
_____  
Hello Alice  
Hello Bob  
_____
```

MODULES

- All Python programs can call a basic set of functions called built-in functions, including the `print()`, `input()`, and `len()` functions.
- Python also comes with a set of modules called the standard library.
- Each module is a Python program that contains a related group of functions that can be embedded in your programs.
- Once we import a module, we can use all the functions of that module.
- Since `randint()` is in the `random` module, we must first type `random.` in front of the function name to tell
- Python to look for this function inside the `random` module.

```
import random
for i in range(5):
    print(random.randint(1, 10))
```

```
4
1
8
4
1
```

MANIPULATING STRINGS

- String values begin and end with a single quote.
- One benefit of using double quotes is that the string can have a single quote character in it.

```
>>> spam = "That is Alice's cat."
```

- Since the string begins with a double quote, Python knows that the single quote is part of the string and not marking the end of the string.
- An escape character consists of a backslash (\) followed by the character you want to add to the string.

```
>>> spam = 'Say hi to Bob\'s mother.'
```

- Python knows that the single quote in Bob's has a backslash, it is not a single quote meant to end the string value. The escape characters \' and \" allows to put single quotes and double quotes inside your strings, respectively.

- You can place an r before the beginning quotation mark of a string to make it a raw string. A raw string completely ignores all escape characters and prints any backslash that appears in the string

```
>>> print(r'That is Carol\'s cat.')  
That is Carol\'s cat.
```

- A multiline string in Python begins and ends with either three single quotes or three double quotes.
- Any quotes, tabs, or newlines in between the “triple quotes” are considered part of the string.

Program

```
print('''Dear Alice,  
  
Eve's cat has been arrested for catnapping, cat burglary, and extortion.  
  
Sincerely,  
Bob''')
```

Output

```
Dear Alice,  
  
Eve's cat has been arrested for catnapping, cat burglary, and extortion.  
  
Sincerely,  
Bob
```



THANK YOU