TIP: Use **comments** to keep a note of what each function/file does

Functions

1. make a new file called *functions.py* and save it inside a new folder called *exercise2* in your personal directory (codebreakers > students > user_name)

2. Write a function *double_print(x)* in *functions.py* which takes input number *x* and prints its double

3. Write a function *double(x)* in *functions.py* which takes an input number *x* and returns its double. How would you print this value?

   Hint: Use a *variable* to store the return value of *double(x)* and then print it

4. In a new python program *new_functions.py* inside *exercise2* directory, call function *double(x)* of *functions.py* and use it to print the double of 7.89 divided by 2

   Hint:
   How can you use *functions.py* as a module?
   How can you use the function *double* inside the **functions** module?

Strings and Random Numbers

1. Write a python program called *strings.py* that prints the length of the following strings:
   string1 = "cryptography"
   string2 = "Am I doing this right?"
   string3 = "whatAboutThis?"
   string4 = "BuCodeBreakers2017!!!"

   Hint: *len()*

2. In *strings.py*, add code to print one random character from each string

   Hint:

   *A. What does random() do? How to **import** random() to strings.py?*

   B. How to generate random number within a certain range?

   C. How to change floats to ints?

   D. How to access elements in a string? How are they indexed?

Lists and Random Numbers

1. Write a python program called *list.py* make a list with 5 numbers and print it. You can pick any number of you choice

2. Replace each number in the list with random number less than the element and print your list again.

   Example: If the 1st element of your list is *5,* the element should be replaced by a new number less than 5.

   Hint:

   A. How to generate random number within a certain range?

   B. How to access and change each element in a list?

Bonus

1. Write a python program *bonus1.py* to generate and print a random substring of length 3 from

   string: “Break the code!!”

2. Write a python program *bonus2.py* to generate 2 random integers between 5 and 10, add them together and print its log.