

# Requirements

This hands-on is broken into three parts. Please complete each part within your `main.py` file.

## Part 1

1. Create three functions that each accept three parameters.
  - The first function should be named `sum_function` and should return the *sum* of all numbers (add them all together)
  - The second function should be named `product_function` and should return the *product* of all numbers (multiply them all together)
  - The third function should be named `average_function` and should return the *average* of all numbers
2. **HINT:** The average is the sum divided by the number of items.

Print out the result of calling each function. For example:

```
print(sum_function(1, 2, 3))
```

Should print:

6

# Part 1

```
def sum_function(num1, num2, num3):  
    return num1 + num2 + num3
```

```
print(sum_function(1, 2, 3))
```

```
def product_function(number1, number2, number3):  
    return number1 * number2 * number3
```

```
print(product_function(4, 3, 9))
```

```
def average_function(int1, int2, int3):  
    return (int1 + int2 + int3)/3
```

```
print(average_function(4, 9, 7))
```

---

## Part 2

1. Create three `lambda` functions that do the same thing as the functions in step 1. Assign each lambda function the following variables:
  - `add_numbers`
  - `multiply_numbers`
  - `average_numbers`
2. Print and call the above functions

# Part 2

```
add_numbers = lambda numb1, numb2, numb3 : numb1 + numb2 + numb3
```

```
print(add_numbers(22, 12, 10))
```

```
multiply_numbers = lambda numbr1, numbr2, numbr3 : numbr1 * numbr2 * numbr3
```

```
print(multiply_numbers(2, 7, 19))
```

```
average_numbers = lambda integer1, integer2, integer3 : (integer1 + integer2 + integer3)/3
```

```
print(average_numbers(2, 3, 8))
```

---

## Part 3

1. Creating three separate lists named the following: `list_one`, `list_two`, `list_three`
2. Add the following numbers in to their respective lists:
  - numbers `4`, `6`, `88`, and `24` should go within `list_one`
  - numbers `17`, `34`, `9`, and `5` should go within `list_two`
  - numbers `63`, `20`, `98`, and `4` should go within `list_three`

3. Create one lambda function named `average_maker` that takes in three numbers and finds the average.
4. Use `map` to compute the average of each set of values at each index. This will produce a new list of the four average calculations.
  - The variable name for this calculation should be `map_results`
  - You will be using each of the lists within the `map` function.
5. Print out the end result of using `map`.  
Hint! You will need to use `list()`
6. The final output should be as shown below:  
`[28.0, 20.0, 65.0, 11.0]`

```
list_one = [4, 6, 88, 24]
```

```
list_two = [17, 34, 9, 5]
```

```
list_three = [63, 20, 98, 4]
```

```
average_maker = lambda num1, num2, num3: (num1 + num2 + num3)/3
```

```
map_results = map(average_maker, list_one, list_two, list_three)
```

```
print(list(map_results))
```