

CS177 LAB 6

Before the Lab

Study Chapter 6 of the textbook.

Setting up your Environment

Go to your working directory in “`data.cs.purdue.edu`” and create a directory “`cs177/lab06`”. Refer to lab 1 if you need to remember the steps to do so. Then start the IDLE Python Interpreter.

Exercise 1

Write a program to print the lyrics of the song "Old MacDonald." Your program should print the lyrics **for five different animals**, similar to the example verse below:

Old MacDonald had a farm, Ee-igh, Ee-igh. Oh!
And on the farm he had a cow, Ee-igh, Ee-igh, Oh!
With a moo, moo here and a moo, moo there.
Here a moo, there a moo, everywhere a moo, moo.
Old MacDonald had a farm, Ee-igh, Ee-gh, Oh!

Hint: Write a function that takes two parameters: the animal and the sound that the animal makes. Call the function 5 times, passing the function a different name and sound via parameters each time.

You have to use functions. Do not repeat the paragraph above five times.

Save the program in `cs177/lab06/macdonald.py`

Exercise 2

Write the definition for a function `sumN(n)` which returns the sum of the first n natural numbers. (Hint: Recall that the natural numbers are 0, 1, 2, 3...)

Then, use the function in a program. The program should prompt the user for n and print out the sum of the first n natural numbers.

Save the program in `cs177/lab06/sum.py`

Exercise 3

Write a function `average(listname)` which takes a list of numbers as an argument and returns the average of the numbers.

Then write a program that asks the user to input a list of numbers and calls the `average(listname)` function to print the average of the numbers in the list.

Hint: To input a list use:

```
l = eval(input("List:"))
```

The average of a list of numbers is the sum of the elements divided by the number of elements.

Save the program in **cs177/lab06/average.py**

Turnin in your Lab

Run putty and login to `data.cs.purdue.edu`. Turn in your lab by typing:

```
cd cs177
turnin -v -c cs177 -p lab06 lab06
```

(Recall that the second “lab06” is the name of **your** folder.)

Lab6 Grading Form

Name: _____

Login: _____

	Max	Current
Exercise 1 Submission (6) Print Song correctly (7) Use Functions (7) Use parameters correctly (7) Heading and comments (3)	30	
Exercise 2 Submission (7) Compute sum correctly (10) Correct Program (10) Heading and comments (3)	30	
Exercise 3 Submission (6) Define function (7) Compute average correctly (7) Main Program (7) Heading and comments (3)	30	
Attend your Scheduled Lab	10	
Total:	100	