

Exercises marked with a ★ involve writing programs. These exercises do not have accompanying solutions. You are encouraged to work them out on your own. If you need help with any of them, please reach out to the course staff.

**Exercise 1.** Suppose a Python program called `fruits.py` is run as follows:

```
$ python3 fruits.py Apple Banana Cherry Durian Fig Gooseberry Jackfruit
```

- How many command-line inputs does the program receive, ie, how many values does `sys.argv` contain?
- What is the value of `sys.argv[0]`?
- What is the value of `sys.argv[4]`?

**Exercise 2.** Consider the following program `mystery.py`:

```
import stdio
import sys

stdio.write("Hi ")
stdio.write(sys.argv[4])
stdio.write(", ")
stdio.write(sys.argv[2])
stdio.write(", and ")
stdio.write(sys.argv[1])
stdio.writeln("!")
```

What does the program write as standard output when it is run as follows?

```
$ python3 mystery.py Alice "Bob Carol" Dan Eve Fred George
```

**Exercise 3 (★).** Write a program called `fivehellos.py` that writes the message "Hello, World" five times as standard output.

```
$ python3 fivehellos.py
Hello, World
Hello, World
Hello, World
Hello, World
Hello, World
```

**Exercise 4 (★).** Write a program called `echo.py` that receives a string as command-line input and writes the string back as standard output.

```
$ python3 echo.py "Python is fun!"
Python is fun!
```

**Exercise 5 (★).** Write a program called `reverse.py` that receives five strings as command-line inputs and writes them in reverse order as standard output.

```
$ python3 reverse.py Alice Bob Carol Eve Fred
Fred
Eve
Carol
Bob
Alice
```

**Exercise 6 (★).** Write a program called `phone.py` that receives an area code (str), exchange code (str), and subscriber number (str) as command-line inputs, and writes as standard output the corresponding phone number in `+1 (XXX) XXX-XXXX` format.

```
$ python3 phone.py 728 560 3845
+1 (728) 560-3845
```

### SOLUTIONS

#### Solution 1.

- a. 8
- b. "fruits.py"
- c. "Durian"

#### Solution 2.

```
Hi Eve, Bob Carol, and Alice!
```

**Solution 3.** Discuss with course staff.

**Solution 4.** Discuss with course staff.

**Solution 5.** Discuss with course staff.

**Solution 6.** Discuss with course staff.