

CS 101
HOMEWORK 2

- For the first few exercises, indicate the value returned by the Python interpreter without actually running the code. Write in a text file the answers
- For the programming exercises, create a new Python script file and name it *CS101.Homework2.py*
- When finished, upload your files in Google Classroom using the Homework 2 assignment link. Don't forget to add comments at the beginning of each problem and throughout your code for clarity.

TASKS

1. What is the value displayed when typed into the Python shell? Try to answer without actually running the code. You may run the code to see if you answered correctly.

- (a) $5 + 2 - 3$
- (b) $3 * 2.0$
- (c) $--5$
- (d) $15/2$
- (e) $15.0/2.0$
- (f) $(3 ** 2 + 1) ** 2$

2. What is the value of the last expression? Try to answer without running the code. After you answered, you may check by running the code. Keep in mind that some code might generate an error, so you can answer with the error and a short explanation.

(a)

```
>>> x = 4
>>> x + 1.0
```

(b)

```
>>> x = 4
>>> x + 1.0
>>> x
```

(c)

```
>>> y = 2
>>> y = 5.0
>>> y
```

(d)

```
>>> a = 3
>>> a = a + 5.0
>>> a
```

(e)

```
>>> a = 3
>>> a = a + 5.0
>>> b
```

3. Remember that `//` is integer division and `/` is floating point division. This exercise also can help you understand the difference between the assignment (`=`) and equal to (`==`) operators.

(a)

```
>>> 15//2
```

(b)

```
>>> a = 10
>>> b = 3
>>> a = a//b
>>> a
```

(c)

```
>>> x = 20
>>> x == 2.0
>>> x
```

(d)

```
>>> a = 20
>>> a = a == 2.0
>>> a
```

(e)

```
>>> y = 20
>>> y = y == 20
>>> y
```

4. Write a Python program which prints the product of two given integer numbers only if the product is equal to or lower than 1000. Else it prints their sum. For example given variables num1 and num2 with values of 2 and 5:

```
num1 = 2
num2 = 5
```

your program should display: The product is 10. If variables num1 and num2 have larger values like 100 and 800, then their product would be over 1000:

```
num1 = 100
num2 = 800
```

and your program should display: The sum is 900.

5. Come up with a boolean expression that checks if x divides y.
- *6. Write a program that has three variables x, y and z and prints the smallest odd number among them. If none of them are odd, the program should print a message accordingly.