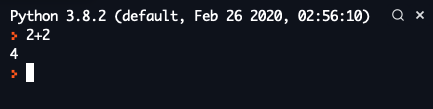
Some New Python Instructions

The console in repl.it is a Python interpreter: an interpreter can include an *interactive* mode. In this mode the interpreter issues a *prompt* — a particular symbol that indicates that it is ready to accept your input. You then type a command, and the interpreter immediately responds with the result, without having to press the "run" button and without typing a command in the numbered list of instructions to the left (see the image below).



**Figure 3-3. Interactive mode of the Python interpreter, the "console". The interpreter’s prompt is >. The user enters 2+2 and then presses [enter]. The interpreter immediately responds with 4 and issues the next prompt.**

Let's use the interpreter in the console to experiment with some new Python instructions!

Open a new project on repl.it. You will EXCLUSIVELY work in the console for this assignment!

Experiment in the console to answer the eight questions that follow:

1. Fill in the blank:

> **3\*\*2**

9

> **3\*\*3**

27

> **3\*\*4**

1. Below is a dialog with Python's *interactive* command processor:

> **n = 38**

> **n**

38

> **n -= 2**

> **n**

36

> **n //= 3**

> **n**

12

What number is displayed after the following commands are executed?

> n = 27

> n -= 3

> **n //= 4**

1. When you type 13/2 at Python's prompt, Python responds with 6.5. But if you type 13//2, then it responds with 6:

> **13/2**

6.5

> **13//2**

6

If you type 17/2, Python responds with 8.5:

> **17/2**

8.5

What is Python's response when you type 17//2?

> **17//2**

1. Fill in the blank:

> **sum(x\*\*2 for x in (1, 2, 3))**

14

> **sum(x\*\*2 for x in (1, 2, 3, 4))**

1. The two tables below show the values in Python of x//2 for several values of

x, and sum(x//2 for x in range(1, n)) for several values of n.

Chart, table, histogram

Description automatically generated

What are the values of 9//2 and sum(x//2 for x in range(1, 9))?

9//2 =

sum(x//2 for x in range(1, 9)) =

1. Fill in the blank in the following dialog with Python's interactive interpreter:

|  |  |  |
| --- | --- | --- |
| > | **divmod(15,** | **5)** |
| (3, | 0) |  |
| > | **divmod(16,** | **5)** |
| (3, | 1) |  |
| > | **divmod(17,** | **5)** |
| (3, | 2) |  |
| > | **divmod(23,** | **5)** |

1. When you type 33/6 at the Python prompt, it responds with 5.5:

> **33/6**

5.5

But if you type 33//6, then it responds with 5:

> **33//6**

5

If you type 33//6/2, the response is 2.5:

> **33//6/2**

2.5

What does Python respond when you type 33//6//2 ?

> **33//6//2**

Answer:

1. In Python, the statement

**print([2\*x for x in range(1, 5)])**

prints [2, 4, 6, 8]. What does the statement

**print([x\*x for x in range(1, 5)])**

print?

Answer: