Python Introduction (or Review)

You can access the `Python shell` by running `python3` in your terminal!
I also recommend making a `sandbox.py` to test and check your answers.

1. How do you initialize a variable in Python?

2. How does Python distinguish between different variable types?

3. Does Python check variable types **statically** or **dynamically**?

4. What happens if you run a Python script and there is a bug?

5. Convert the following snippet into one line:

```python
if (a and not b):
    return False
else:
    return True
```

6. Explain the difference between `range(1,10)` and `range(1,10,2)`.

7. Convert the following for-loop into a while-loop:

```python
for i in range(2, 20, 3):
    print(i)
```

Write the following functions.

8. `add(x,y)` returns the sum of `x` and `y`

9. `larger(x,y)` returns the larger number

10. `xor(a,b)` returns whether *exactly* one input is True

11. `hello(n)` prints `"hello"` *n* times

12. `fraction(n)` prints the float representations of `1/2, 1/3, 1/4 ... 1/n`

13. `factorial(n)` returns the factorial of *n* (written as `n!`)

14. `stars(n)` prints a right triangle of stars with height and base *n*
    ex: `stars(3)` should print:

```
*
**
***
```