

**Practice 1**

1. What Python function do you use to display a value in the console?
2. What does the line with a # mean to Python in the following code?

```
base = 2
height = 3
# Calculate area of a triangle
area = (base * height) / 2
print(area)
```

3. Which of the following are syntactically correct strings?

- a. **"This course is great!"**
- b. **[Hello]**
- c. **'Hello, world.'**
- d. **Hello**
- e. **"Goodbye"**
- f. **'She shouted "Hello!" very loudly.'**

**Practice 2**

Let's do some practice with age as our variable!

Assign a number to a variable called 'age' and another number for our friend Bob called 'bobs\_age'.

Use print() to write the sentence "I am (age) years old."

Use print() to write the sentence "Bob is (bobs\_age) years old."

Note: Try not to input your sentence as one string into print(), use the variables 'age' and 'bobs\_age'.

Pretend it's your birthday and add one to your age variable. Rewrite your sentence using print() to say "I am now (age) years old."

```
age = 24
bobs_age = 23
print(age)

print("I am", age, "years old")
print("I am 21 years old")
print("I am 24 years old")

print("Bob is", bobs_age, "years old")

age = 24
print(age)
age = age + 1
print(age)
```

**> Solution**

[Show code](#)

**Practice 3**

1. A gram is equal to 0.035274 ounces. Assume that the variable *mass\_in\_ounces* has a value representing a mass in ounces. Which arithmetic expressions below using the variable *mass\_in\_ounces* represent the equivalent mass in grams?

- a.  $\text{mass\_in\_ounces} / 0.035274$
- b.  $0.035274 / \text{mass\_in\_ounces}$
- c.  $\text{mass\_in\_ounces} * 0.035274$
- d.  $0.035274 * \text{mass\_in\_ounces}$

2. Which of the following arithmetic expressions are syntactically correct?

- a.  $(7 - 2) / (3 ** 2)$
- b.  $3 * ((2 - 9) + 4) * (2 + (1 - 3))$
- c.  $5 * 3 (7 - 2)$
- d.  $(8 + (1 + (2 * 4) - 3))$
- e.  $7 / +4$

3. If  $x = 5$  and  $y = 8$ , without using Python, what will the following code output? Bonus: What is the type of object that Python outputs?

- a. `print(x == y)`
- b. `print(x != y)`
- c. `print(x < y)`
- d. `print(x > y)`
- e. `print(x <= y)`
- f. `print(x >= y)`

**Practice 4** Implement the mathematical function  $f(x) = -5x^5 + 69x^2 - 47$  as a Python function.

```
#def: short for "define", starts a function
#function name: indicates what function does, good example: sum_of_squares, bad example: function
#parameters: inputs for a function, can be 0 or more inputs
#colon: indicates what follows the colon as code for your function
#docstring: begin and end with three quotation marks, describes in English what the function DOES (not HOW it does it)
#body: code of the function
#return: output result of the function
#local variables: only exist within the function, if called outside of the function there will be an error
```

### Your Turn!

1. Write a Python function to convert temperatures from Fahrenheit to Celsius

Formula:  $\text{celsius} = (5.0 / 9.0) * (\text{fahrenheit} - 32)$

What is 140F and 45F in Celsius?