VARIABLES AND DATATYPES

"You must unlearn what you have learned" -Yoda

VARIABLES

A varable is a useful way to store data with a label that you as the developer

can understand.

Technically, a variable is a reserved memory location to store values / data.

However, functionally for our purposes it's a labeled way to store and access data.

ASSIGNING A VARIABLE

```
name = "yoda"

short = True

age = 900


years_training_jedi = "800 years"
```

To assign a variable, you type the variable name then put an "=" sign then the value you want the variable to be.

The = is called the assignement operator. The left side of the assignement must be a variable and the right side can be almsot any value or type or even an expression. (Remember expression from previous lesson?)

VARIABLE NAMES

You can use almost anything to be a varible name (with a few exceptions below), but it is best practices to use short words are phrases.

The rules for python are :
The first character must be a letter or the underscore character (_).

The remaining characters can be a letter, number, or underscore.

There are reserved words that cannot be used as a variables. Make sure to not to attempt to use those.

Python variables typically use snake_case_variable_names - all lowercase letters with words separated by underscores.

It's not a requirement, but it is the convention adopted by the community of Python programmers.

DATA TYPES

All programming languages have data types. A data type is a specific kind of value.
Programmers often simply call these "types".

Python has several types that we will cover, but for this lesson we are going to go over 3 types.

Each data type has different things it can do, things that can be done to it, and different uses.

STRING

```
han_solo_quote = "I know."

yoda_quote = 'you will be...you will be'

darth_vader_quote = """
No,


I am your Father!
"""
```

A string is a collection of one ore more characters.

A string is creating by putting the collection of charecters inbetween single quote ('), double quote (") or 3 of either single quote or double quote.

A string is often used to give readable inform to the user.

Only the triple quotes can span multiple lines. If you attempt it with the single quote or the double quote you will get an error.

INTEGER

```
episodes = 9

lukes_hand_count = 1



jar_jar_binks_popularity = -5000
```

An interger is a whole number.

It cannot have a decimal point.

It can be negative or positive.

Integers are often used for counting.

BOOLEAN

```
is_yoda_short = True

is_chewy_short = False



greedo_shot_first = False
```

A Boolean is simple a true or false.
In python you must use capitalized True or False.

Booleans are often used to check the status of something.

It is also possible to use the 0 for false and the 1 for true, but it can sometimes cause confusion if you are trying to show an Integer or a Boolean.

USING VARIABLES AS THEIR DATA TYPE

```
yoda_color = "green"
print(yoda_color)


yoda_age = 900
yoda_years_teaching_jedi = 800
yoda_age_when_started_teaching = yoda_age - yoda_years_teachin
print(yoda_age_when_started_teaching)
```

Varaibles can be use to in the same way as it's assigned value data type is used. If the value of the variable is a string, then anything you can do to a string can be done to that variable. Same with Integer, and Boolean.