

Aim: How do we declare variables in Python?

Turn-and-talk:

Think back to Javascript:

What do you remember about variables?

- How do they work?
- What do we use them for?

Variable (vary-able)

variable → able to vary → able to change

A variable is a “container” that has...

- a name
- a value

Which part do you think is able to change?

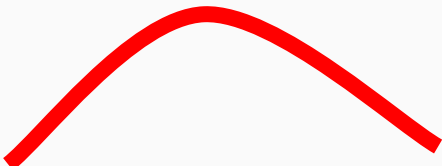
The value can be a number/string/boolean...

We access **values** by their variable **name**

There's two actions that we're going to learn:

- Saving something into a variable
- Getting something from a variable

Notes: *Variable syntax*



name = value

Ex:

name="Bob" would store the string "Bob" into a variable called **name**.

Whatever is on the RIGHT side of the equal sign gets stored into the variable on the left

Variable Creation Rules

- Variable names can only consist of uppercase letters, lowercase letters, digits, and underscores (the character `_`).
- Variable names cannot start with digits
- Variable names cannot be any special keyword (such as `print`)

TURN AND TALK

Select all valid variable names.

(A) NAME

(B) n4m3

(C) |\4M3

(D) 1_name

(E) _____name_

Variable Naming Conventions

- Short & make sense
 - Good: player1_points
 - Bad: how_many_points_player_1_has
 - Bad: variable1
- Naming convention: snake_case
 - *Javascript: camelCase*
 - What happens if we try...
 - favorite sport = "basketball"
- No keywords as variables names

2.3.1 Keywords

The following identifiers are used as reserved words, or *keywords* of the language, and cannot be used as ordinary identifiers. They must be spelled exactly as written here:

and	del	from	not	while
as	elif	global	or	with
assert	else	if	pass	yield
break	except	import	print	
class	exec	in	raise	
continue	finally	is	return	
def	for	lambda	try	

Students and Instructors

Let's see how we can declare and use variables in our REPL.

There are 30 students and 5 instructors.

We want the program to print:

“There will be 6 students per instructor”

How can we do this using variables?

Variable Basics

Write a program that...

- *Stores a boy's first name*
 - Whatever name you want!
- *Stores a girl's first name*
 - Whatever name you want!
- *Stores a last name*
 - Whatever name you want!
- Prints the fact that they're twins
 - "Did you know that John Doe and Jane Doe are twins?!?!"
- **Extension:** store which class they have together and include it in the fact!

**Make sure you are
following proper naming
conventions!**

Summary

What's wrong with the following line of code?

```
"grapes" = myFavorite fruitToEat
```