

Quiz 1

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1. Identify each expression: is it a primitive expression or a call expression?

- (**primitive** / **call**) 3
- (**primitive** / **call**) `add(2, 3)`
- (**primitive** / **call**) `print(5)`
- (**primitive** / **call**) `3 + 4`

2. When do we make a new frame in an environment diagram?

3. Imagine we run the following lines in `python`. Draw the environment diagram after executing the program.

```
def swap(x, y):  
    x, y = y, x  
    return print('Swapped!', x, y)
```

```
x, y = 60, 1  
a = swap(x, y)  
swap(a, y)
```

4. **What Would Python Display?** Consider what would happen if we ran the following instructions in the `python` interpreter. Below each expression, write the output from the interpreter or **Error** if an error occurs.

```
>>> 3 + 4
```

```
>>> '3' + 4
```

```
>>> '3 + 4'
```

```
>>> 1 / 0
```

```
>>> def boom():  
...     return 1 / 0  
...
```

```
>>> boom()
```

```
>>> def square(x):  
...     return x * x  
...
```

```
>>> def happiness(num):  
...     print(x)  
...     return num  
...
```

```
>>> square(happiness(5))
```

```
>>> def sadness(num):  
...     return num  
...     print(num / 0)  
...
```

```
>>> square(sadness(5))
```