Python Day 1 - Fundamentals

1. What is the difference between the Python shell and writing Python files?

2. Complete the following:

Task	JavaScript	Python
Make comments	// this is a comment	
Declare a variable	var x = [1,2,3,4,5]	
Show text on the console	console.log("hello")	
For loop with numbers	for (var num = 0; num < end_val ; num++) { }	

For-in loops	for (var y in someArray) { for (var y in someObj) {
	
	  //y is index values of //y is keys in someObj
	  someArray }
	
	}	

Conditional statements	if (<<condition1>>) { … }
	else if (<<condition2>>) { … } // may have 0-many
	else { … } // may have 0 or 1	

Declare a function	function nameOfFunction(param1, param2) { … }	
Get the length of something	x.length	
Add an item to an array/list	x.push(newVal)	
Remove last item	x.pop()	# or remove specific item:

3. Practice navigating nested objects and arrays. Use string interpolation (think f strings) on the bolded words, to print the statements:

```
hero = { 'name': 'Superman', 'powers': ['flight', 'superhuman strength', 'x-ray vision'] }
# print the statement "Superman has x-ray vision" using string interpolation
    f"{                              } has {                              }"
```

```
boy_wizard = { 'name': 'Harry Potter', 'student_info': {'house': 'Gryffindor', 'year': 1 } }
# print the statement "Harry Potter is a 1st year in Gryffindor"
    f"{                } is a {                }st year in {                              }"
```

```
books = [{'title': 'Pride and Prejudice', authors: [{'name': 'Jane Austen', 'birth_year': 1775}],
'pub_year': 1813}, {'title': 'Pride and Prejudice and Zombies', authors: [{'name': 'Jane Austen',
'birth_year': 1775}, {'name': 'Seth Grahame-Smith', 'birth_year': 1976}], 'pub_year': 2009}]
# print the statement "Pride and Prejudice was written by Jane Austen in 1813."
    f"{                } was written by {                } in {                }."
```

```
# print the statement "Pride and Prejudice and Zombies was written by Seth Grahame-Smith in 2009.
    f"{                } was written by {                } in {                }."
```