2.1 Python Syntax, Operators and Input/Output

Today we'll be using the Python 3 CodeSkulptor IDE (https://py3.codeskulptor.org/)

Type each of the following in, click "Run" and record what happens

```
print("Hello, World!")
```

```
if 5 > 2:
  print("Five is greater than two!")
```

```
if 5 > 2:
print("Five is greater than two!")
```

Without the indentation, Python gives an error.
It is expecting the next line to be indented because that is part of Python's **syntax**.

Syntax: The punctuation, indentation, words and commands that a language expects.

```
#This is a comment.
print("Hello, World!")
```

```
"""This is a
multiline comment."""
print("Hello, World!")
```

```
x = 5
y = "John"
print(x)
print(y)
```

Declaring a variable, x, to be 5. When we print(x) we get 5.

```
x = 4
print(x)
print(type(x))
x = "Sally"
print(x)
print(type(x))
```

The **type** of variable can change in Python … dynamically.

```
x = "awesome"
print("Python is " + x)
```

```
x = "Python is "
y = "awesome"
z =  x + y
print(z)
```

```
x = 5
y = 10
print(x + y)
```

```
y=2.8
print(y)
print(type(y))
y=int(2.8) # "Casting" a variable
# forcing it to become another type of variable
print(y)
print(type(y))
```

```
y=2.8
print(y)
print(type(y))
y=str(2.8) ← Casting to a string
print(y)
print(type(y))
```

```
a = "Hello, World!"
print(a[1])
```

```
b = "Hello, World!"
print(b[2:5])
```

```
a = "Hello, World!"
print(len(a))
```

```
a = "Hello, World!"
print(a.lower())
```

```
a = "Hello, World!"
print(a.upper())
```

```
a = "Hello, World!"
print(a.replace("H", "J"))
```

```
a = "Hello, World!"
print(a.split(",")) # returns ['Hello', ' World!']
```

```
print(24+6)


print(24-6)


print(24*6)


print(24/6)


print(25/6)


print(25//6)


print(2**5)


print(32%3)


x=7
print(x)
x++
print(x)



x=7
print(x)
x+=10
print(x)



x=7
print(x<8)


x=7
print(x==7)
```