

## DSCI 510 Lab 1

In [1]:

```
print("Welcome to DSCI510!")
```

Welcome to DSCI510!

# Python for Everybody

## Chapter 1

### Computer hardware architecture

- Central Processing Unit (CPU)
- Main Memory
  - store information that the CPU needs and is nearly as fast as CPU
- Secondary Memory
  - slower than main memory, can store memory when there is no power to the computer
- Input & Output Devices
  - screen, keyboard, mouse...

### Interpreter & compiler

Interpreter

- interpreter is a computer program that directly executes instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program.

Compiler

- needs to be handed the entire program in a file, and translate high-level source code to machine language and then the compiler puts the resulting machine language into a file for later execution

## Chapter 2

### Values & types

In [2]:

```
print(4)
print(type("Hello World"))
print(type(17))
print(type(3.2))
print(type("17"))
print(type("3.2"))
```

```
4
<class 'str'>
<class 'int'>
<class 'float'>
<class 'str'>
<class 'str'>
```

## Operations and Operands

In [13]:

```
minute = 59
print("modulus 59 / 60")
print(minute/60)
print("modulus 59 // 60")
print(minute//60)
print("remainder")
print("modulus 59 % 5")
print(minute%5)
print("exponential 59**3 == 59*59*59")
print(minute**3)
```

```
modulus 59 / 60
0.9833333333333333
modulus 59 // 60
0
remainder
modulus 59 % 5
4
exponential 59**3 == 59*59*59
205379
```

## string operation

In [4]:

```
first = "100"
second = "200"
print(first+second)
print(first*3)
```

```
100200
100100100
```

## user input

In [6]:

```
string_input = input()
```

30

In [7]:

```
print(type(string_input))  
int_input = int(is_string)  
print(type(int_input))
```

<class 'str'>

<class 'int'>

## Chapter 3

In [10]:

```
# Boolean expression  
print(5==5)  
print(5==7)  
print(type(True))
```

True

False

<class 'bool'>

- single sign(=)
  - assign value
- double equal sign (==)
  - compare value

In [11]:

```
# conditional execution  
num = 5  
if num < 10:  
    print("5 is less than 10")  
if num > 20:  
    print("5 is larger than 20")  
print("done")
```

5 is less than 10

done

In [12]:

```
# chained conditionals
num = 10
if num < 10:
    print("5 is less than 10")
elif num > 20:
    print("5 is larger than 20")
else:
    print("doesn't satisfy")
```

doesn't satisfy

## catching exceptions

In [15]:

```
temperature = input('Enter Fahrenheit Temperature : ')
try:
    fahr = int(temperature)
    cel = (fahr-32.0) * 5.0 / 9.0
    print(cel)
except:
    print("plz enter a number")
```

Enter Fahrenheit Temperature : hi  
plz enter a number

In [ ]: