# Task#4

## Python, Conditions & Operators.

Python is a high level programming language known for its simplicity and readability.

Supports object oriented, functional and procedural programming

Used in many areas such as: Web Development, Data Analysis, Artificial Intelligence and more.

Multiple Assignment:

```
Syntax:
x, y, z = 1, 2, 3
#x=1, y=2, z=3
```

Python uses indentation rather than curly brackets to identify block codes.

It does not require to declare the type of the variable as Python detects it automatically,

```
Syntax:
A=8 #Integar
B='Basit' #String
```

Conditional statements are used are 'if' 'elif' and 'else'.

Operators such as '/' for division, '%' for modulus, '**' for Exponentiation.

```
Syntax:
x = 10
y = 3
print(x + y)  # 13
print(x - y)  # 7
print(x * y)  # 30
print(x / y)  # 3.333...
print(x % y)  # 1
print(x ** y) # 1000
```

```
print(x // y) # 3
```

More operators: '==' (exactly equal), '!=' (not equal), '<=' (greater then or equal to\)

```
Syntax:
print(x == y)  # False
print(x != y)  # True
print(x > y)   # True
print(x < y)   # False
print(x >= y)  # True
print(x <= y)  # False
```

Logical operators used to combine conditional statements:

```
Syntax:
x = True
y = False
print(x and y)  # False
print(x or y)   # True
print(not x)    # False
```

1. Variable names are case sensitive, e.g. 'age', 'AGE', 'Age' are three different variable names.
2. Membership Operators: 'in' Returns True if a sequence with the specified value is present in the object: x in y

3. 'not in' Returns True if a sequence with the specified value is not present in the object: x not in y

```
Syntax:
x = ["apple", "banana"]

print("banana" in x)  # True
print("cherry" not in x)  # True
```