1.What are the two values of the Boolean data type? How do you write them?

True and False are two values of the boolen data types.

In [1]:

```
a=True
b=False
print(a,type(a))
print(b,type(b))
```

```
True <class 'bool'>
False <class 'bool'>
```

2. What are the three different types of Boolean operators?

There are three differnt types of Boolean operators in python i,e: or,and, not

In [4]:

```
a=15
b=25
print(a>10 and b>30) # Example of boolean and
print(a>20 or b>10) # Example of boolean or
print(not(a>10)) # Example of boolean not
```

```
False
True
False
```

3. Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate) ?

The Truth tables for the boolean tables are as follows: 1) Truth Table for AND operator True and True is True True and False is False False and True is False False and False is False 2) Truth Table for OR operaotor True and True is True True and False is True False and True is True False and False is False 3) Truth Table for not operaotor True NOT is False False NOT is True

4. What are the values of the following expressions ?

In [7]:

```
print((2>1)and(2==5)) # False
print(not(3>1)) # False
print((3>1)or(4==5)) # True
print(not((5>2)or(3==4))) # False
print((True and True)and(True==False)) # False
print((not False)or(not True)) # True
```

```
False
False
True
False
False
True
```

5. What are the six comparison operators?

The Six comparision operators available in python are: == , != , < , > , <= , =>

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one ?

== is the equal to operator that compares two values are same or not and evaluates to a Boolean, while = is the assignment operator that stores a value in a variable.

In [9]:

```
a=2 # Assigning operator that stores 2 value in a variable a
if a==2:#comparing values of a varible value and 2
    print(a==2)
```

```
True
```

7. Identify the three blocks in this code:

spam = 0 if spam == 10: print('eggs') if spam > 5: print('bacon') else: print('ham') print('spam') print('spam')

In Python, code block refers to a collection of code that is in the same block or indent. This is most commonly found in classes, functions, and loops.

In [10]:

```
spam = 0
if spam == 10:
    print('eggs')   # block 1
if spam > 5:
    print('bacon')   # block 2
else:
    print('ham')   # block 3
print('spam')
print('spam')
```

```
ham
spam
spam
```

8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.

In [11]:

```
def spamCode(spam):
    if spam==1:
        print('Hello')
    elif spam==2:
        print('Howdy')
    else:
        print('Greetings')

spamCode(1)
spamCode(2)
spamCode(3)
```

```
Hello
Howdy
Greetings
```

9.If your programme is stuck in an endless loop, what keys you'll press?

Press Ctrl-c to stop a program stuck in an infinite loop

10. How can you tell the difference between break and continue?

The break statement will move the execution outside the loop if the break condtion is satisfied. while on other hand the continue statement will move the execution to the start of the loop.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

The Differences are as follows: The range(10) call range from 0 to 9 but not include 10 The range (0,10) explicitly tells the loop to start at 0 The range(0,10,1) explicitly tells the loop to increase the variable by 1 on each iteration

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop ?

In [13]:

```
print('Using For Loop')
for i in range(1,11):
    print(i, end=" ")
print('\n')
print('Using While Loop')
i=1
while i<=10:
    print(i, end=" ")
    i+=1
```

```
Using For Loop
1 2 3 4 5 6 7 8 9 10

Using While Loop
1 2 3 4 5 6 7 8 9 10
```

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam ?

This function will called with spam.bacon()