**Basic Operator**:

Arithmetic and Comparison Operators :

There are 7 kinds of arithmetic operators

1. Arithmetic
2. Comparison or Relational operators
3. Assignment operators
4. Logical operators
5. Bitwise operators
6. Membership operators
7. Identity operators

Logical operator works at the macro level with true or false values.

a = True

b = False

a and b ------ and is the logical operator

False

a or b ------- or logical operator

True

The last logical operator is not operator ie it reverse the value that is provide for eg

Not a will give me False lly not b gives me true

Bitwise operator work on binary number or more specifically the bits in the binary numbers basically a OR, AND , Exclusive OR

a=15

b=10

bin(a) ------------- binary value of a

'0b1111'

bib(b)

bin(b) -------------- binary value of b

'0b1010'

bin(a&b) ------------- binary value of a and b

'0b1010'

bin(a|b) ------------ binary value of a or b

'0b1111'

bin(a^b) ------------ binary value of exclusive a or b

'0b101'

Membership and Identity operators: So the membership operators let you check the value is present in a set or not .So if you have string and if you want to check that whether there is a word in string or not then you use the in membership operators e g:

str = “I have a lazy dog”

syntax : “dog” in str ------ in operator we get the output as True or False.

Identity operators compare memory locations of object and they tell you whether two variables have the same value as well as the same datatype .

Eg: a=42

B=’42’ ----- string of 42

a is b

So it will return false

Decision Making :

1. If Statement : The if statement is a conditional that, when it is satisfied activates some part of code. eg: I will create a variable and I will give the value 50 and then I will use the if statement to check whether the variable values is les then 100 or not and if it 100 then I will display a message using the print statement if its not we not going to print it

myvar = 50

if myvar < 100 :

print(“You are short of a number”)

print(“Good bye!”)

1. else statement : The else statement is different from if statement in the sense that it gets you an else block in your code executes when the condition is evaluated by ‘if’ is false.

eg:

myvar = 50

if myvar < 100 :

print(“You are short of a number”)

else :

print(“You are at your best”)

print(“Good bye!”)

1. ELIF: ELIF statement allows us to check multiple statements instead of one statement in the if statement

Eg:

sp = 30

cp = 50

if sp>cp:

print("You have a profit of", sp-cp,"Rupees")

elif cp> sp :

print("You have made a loss of", cp-sp, "Rupees")

else:

print("You didnt make or loss money")

Nested IF-ELSE Statement: We we will write a simple program in which we will check basically we will ask the user first to enter a character then we check whether the entered character is a upper case character or a lower case character so if it all the alphabet we will check whether the alphabet is a vowel or a consonant

char = input()

if ord(char)>=65 and ord(char)<=90:

print("You have entered the uppercase letter.")

if char in ("A", "E", "I", "O", "U"):

print("The letter is vowel.")

else:

print("The letter is consonant")

elif ord(char)>=97 and ord(char)<=122:

print("You have entered the lowercase letter.")

if char in ("a", "e", "i", "o", "u"):

print("The letter is vowel.")

else:

print("The letter is consonant")

else:

print("You did not enter the alphabet.")