

Conditional Operator

Conditional operator is a ternary operator and required 3 operands to perform operation.

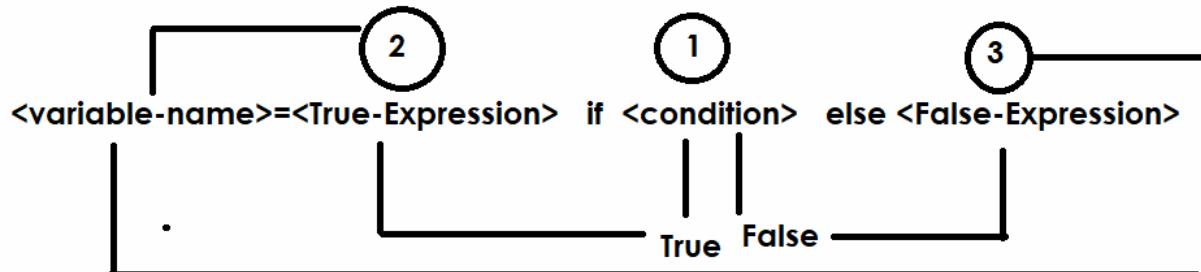
Conditional operator is used for creating conditional expression.

Syntax1: <variable-name>=opr1 if opr2 else opr3
(OR)

Syntax1: <variable-name>=<true-expression> if <condition> else <false-expression>

Python verifies condition, if condition is True, it execute true-expression, if condition is False, it execute <false-expression>

Always evaluation of expression is done based on condition.



```
>>> print("Hello") if True else print("Bye")
```

Hello

```
>>> print("Hello") if False else print("Bye")
```

Bye

Example:

```
# Write a program to find input number is even or odd
```

```
num=int(input("Enter any number "))
print("Even") if num%2==0 else print("Odd")
```

Output

Enter any number 4

Even

Enter any number 3

Odd

Example:

```
# Develop Login Program  
# input username and password  
# verify username and password  
# if valid print welcome else print invalid username or password
```

```
print("****Login****")  
uname=input("UserName :")  
pwd=input("Password :")  
print("Welcome") if uname=="nit" and pwd=="n123" else print("Invalid  
UserName or Password")
```

Output

```
***Login***  
UserName :nit  
Password :n123  
Welcome
```

```
***Login***  
UserName :nit  
Password :xyz  
Invalid UserName or Password
```

Example:

```
# Write a program to find input amount is multiples of 500  
# or not
```

```
amt=int(input("Amount :"))  
print("Valid Amount") if amt%500==0 else print("Amount is not multiples of  
500")
```

Output

```
Amount :1000  
Valid Amount
```

```
Amount :1200  
Amount is not multiples of 500
```

Example:

```
# Write a program to find last digit of input number  
# is divisible with 3 or not
```

```
num=int(input("Enter any number "))  
last_digit=num%10  
print("divisible") if last_digit%3==0 else print("not divisible")
```

Output

```
Enter any number 126  
divisible
```

```
Enter any number 128  
not divisible
```

Example:

```
# Write a program to find input number is 3 digit or not
```

```
num=int(input("Enter any number "))  
print("3 Digit No") if 100<=num<=999 else print("Not 3 Digit No")  
print("3 Digit No") if num>=100 and num<=999 else print("Not 3 Digit No")
```

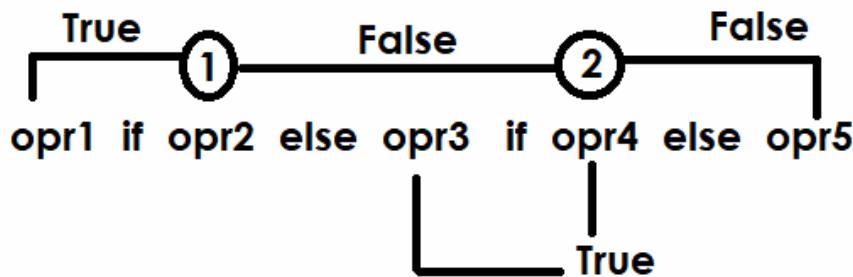
Output

```
Enter any number 345  
3 Digit No  
3 Digit No
```

Using multiple conditional operators in a given expression

Syntax: opr1 if opr2 else opr3 if opr4 else opr5 if opr6 else opr7

Multiple conditional operators are used within expression for checking multiple conditions.



Example:

```
# POC
print("A") if True else print("B") if True else print("C")
print("A") if False else print("B") if True else print("C")
print("A") if False else print("B") if False else print("C")
```

Output

A
B
C

Example:

```
# Write a program to find input number is +ve,-ve or zero
```

```
num=int(input("Enter any number "))
print("+ve") if num>0 else print("-ve") if num<0 else print("zero")
```

Output

Enter any number 100
+ve

Enter any number -20
-ve

Enter any number 0
zero

Example:

```
# Write a program to input name,3 subject marks
# calculate total,avg
# find grade based on avg
# avg>90 ---> A+
```

```

# avg>=70<=90 ---> A
# avg>=50<70 ---> B+
# avg>=40<50 --> B
# avg<40 --> C

name=input("Name :")
sub1=int(input("Subject1 Marks:"))
sub2=int(input("Subject2 Marks:"))
sub3=int(input("Subject3 Marks:"))
total=sub1+sub2+sub3
avg=total/3
grade="A+" if avg>90 else "A" if avg>=70 and avg<=90 else "B+" if
avg>=50 and avg<70 else "B" if avg>=40 and avg<50 else "C"
print(f"Name {name}
Subject1 Marks {sub1}
Subject2 Marks {sub2}
Subject3 Marks {sub3}
Total Marks {total}
Avg Marks {avg:.2f}
Grade {grade}"')

```

Output

Name :Naresh
 Subject1 Marks:90
 Subject2 Marks:98
 Subject3 Marks:97
 Name Naresh
 Subject1 Marks 90
 Subject2 Marks 98
 Subject3 Marks 97
 Total Marks 285
 Avg Marks 95.00
 Grade A+

Name :Suresh
 Subject1 Marks:40
 Subject2 Marks:30
 Subject3 Marks:20
 Name Suresh
 Subject1 Marks 40

Subject2 Marks 30
Subject3 Marks 20
Total Marks 90
Avg Marks 30.00
Grade C

Membership Operator

Membership operator is used for searching given value in collection of values. In application development it is used with collection data types for searching value.

Membership operator is represented using keyword

1. in
2. not in

It is binary operator and required 2 operands
This operator returns Boolean value (True/False)

Syntax: opr1 in opr2

Opr1 can be any type

Opr2 must be collection type

If value exists in collection of values, this operator returns True else False

```
>>> 10 in 10
Traceback (most recent call last):
  File "<pyshell#2>", line 1, in <module>
    10 in 10
TypeError: argument of type 'int' is not iterable
>>> 10 in [10,20,30]
True
>>> 99877643456 in [8899799887,6767856567,9898976765]
False
>>> "nit@gmail.com" in ["naresh@narehsit.com","suresh@gmail.com"]
False
>>> "python" in "java oracle python .net"
True
```

```
>>> "python" not in "java oracle python .net"  
False  
>>> "python" not in "java oracle .net"  
True
```

Example:

```
# write a program to find input character in vowel or not
```

```
ch=input("Input Character ")  
print("Vowel") if ch in "aeiouAEIOU" else print("Not Vowel")
```

Output

```
Input Character x  
Not Vowel
```

```
Input Character E  
Vowel
```

Identity Operator