

```
In [10]: # Logical operators -> and, or, not

# and
age = 32
voter_id = False
# print(age >= 18 and voter_id == True)

# or
bus = False
train = False
# print(bus == True or train == True)

# not
# print( not(10 > 5) )
```

```
In [42]: # identity operators -> address checking, is, is not
# is
# print(type(10) is int)

a = 256
b = 257
# print(id(a), id(b))
# print(a, b)
# b = 15
# print(a, b)
# print(id(a), id(b)) # id - get address of the variable

print(a is b)
print(a is not b)
# print(not(a is b))
```

```
False
True
True
```

```
In [48]: # membership operator -> in, not in
# print('India' in 'India won the world cup 2022')
# print('2022' in 'India won the world cup 2022')

print('India' not in 'India won the world cup 2022')
```

```
False
```

```
In [76]: # bitwise operators -> &, |, ^, <<, >>

# print(16 & 21) # and
# print(16 | 21) # or
# print(16 ^ 21) # and
# print(2 << 1) # Left shift -> first * 2^second
# print(3 << 2) # Left shift
# print(2 << 3) # Left shift
# print(64 << 5)

# print(8 >> 1) # right shift -> first // 2^second
# print(8 >> 2) # right shift
```

```
# print(8 >> 3) # right shift
# print(64 >> 5)
```

2

```
In [95]: # short circuiting -> and

# if(10 < 5 and print('checking')): # will go to 2nd statement only if 1st statement is true
#     print('vasanth')

# if(10 > 5 or print('checking')): # will go to 2nd statement only if 1st statement is false
#     print('vasanth')
```

vasanth

```
In [110... # num = 10 > 5 and 10
num = 10 and 10 > 5
print(num)
```

True

```
In [106... age = 15

vote_id = age > 17 and "Eligible"
print(vote_id)
```

False

```
In [124... # strings
# print('sachin tendulkar')
# print("sachin tendulkar")

# sachin tendulkar is a "good" cricketer
# print('sachin tendulkar is a "good" cricketer')

# sachin tendulkar is a 'good' cricketer
# print("sachin tendulkar is a 'good' cricketer")

# "sachin tendulkar" is a 'good' cricketer
# print('"'sachin tendulkar" is a 'good' cricketer "')
# print('"'sachin tendulkar" is a 'good' cricketer "'')

# poem
print(''Johnny johnny yes papa
Eating sugae no papa
Telling lies no papa
Open your mouth ha ha'')
```

Johnny johnny yes papa
Eating sugae no papa
Telling lies no papa
Open your mouth ha ha

```
In [135... first_name = "sachin"
last_name = "tendulkar"
captain = "dhoni"
age = 40
# sachin tendulkar is a good cricketer. dhoni is the Indian captain
print(first_name + " " + last_name + " " + "is a good cricketer." + " " + captain + " ")
# 3.7
```

```
# formatted strings -> f
print(f"{first_name} {last_name} is a good cricketer. {captain} is the Indian captain
```

sachin tendulkar is a good cricketer. dhoni is the Indian captain

sachin tendulkar is a good cricketer. dhoni is the Indian captain and his age is 40

```
In [ ]: name = input('Enter the name ')
age = input('Enter the age ')
print(f"my name is {name} and my age is {age}")
```

```
In [143... # python is dynamically typed
num = 10
print(num, type(num))
num = 'virat'
print(num, type(num))
```

10 <class 'int'>
virat <class 'str'>

```
In [151... # typecasting
# num1 = int(input('Enter number 1: ')) # default datatype of input is 'str'
# num2 = int(input('Enter number 2: '))

# num1 = float(input('Enter number 1: ')) # default datatype of input is 'str'
# num2 = float(input('Enter number 2: '))

# print(num1 + num2)
```

Enter number 1: 10.5
Enter number 2: 13.7
24.2

```
In [160... name = 'SUMAN'
# print(name, len(name)) #len -> Length

# print(name[0], name[1], name[2], name[3], name[4], name[5])
print(id(name[0]), id(name[1]), id(name[2]), id(name[3]), id(name[4]))

2924299957616 2924303032688 2924301461808 2924301462000 2924303301616
```

```
In [162... # Strings are immutable (not changable if I try to change partly)
name = 'SUMAN'
# name[0] = 'J' # error
name = 'Jay'
print(name)
```

Jay

```
In [175... # news = 'Osama killed Obama'
# person = 'Osama'

# print(person in news)

# methods
# name = "Sahil"
# print(name.upper())
# print(name.lower())

# name = 'kamlakar jatale'
# print(name.capitalize())
```

```
# game = "          god of war          "
# print(game.strip()) # removes unwanted spaces in front and back and by default " "

name = 'vvvvvinvodvvvv'
print(name.strip('v'))
print(name.lstrip('v'))
print(name.rstrip('v'))
```

```
invod
invodvvvv
vvvvvinvod
```

```
In [187... country = "INDIAIIIIIIII"
print(country.replace("I", "J"))
print(country.replace("I", "J", 2)) # 3rd params is the count
```

```
JNDJAJJJJJJJJ
JNDJAJIIIIIIII
```

```
In [186... # data scientists
# name1 = "Jay"
# name2 = "Rojith"
# name3 = "Syed"
# name4 = "meena"
# name5 = "Piyush"
# name6 = 'dasdas'

data_scientists = ["Jay", "Rojith", "Syed", "Meena", "Piyush"]
print(data_scientists[3])
```

```
Meena
```

```
In [189... num = int(input('enter num'))
print(num)
num = 'abhinav'
print(num)

num = True
print(num)
```

```
enter num10
10
abhinav
True
```

```
In [ ]:
```

```
In [ ]:
```