

Keywords

- reserved word which has a special meaning & purpose
- identifier or variable
- it is highlighted
- 35 keywords in python

```
In [1]: 1 # a to z
        2 and-- and operation
        3 as-- alias
        4 break control statement
        5 continue
        6 class
        7 del deletes the iterable
        8 def function
        9 except
       10 else
       11 elif
       12 if
       13 is identity operator
       14 import
       15 not
       16 or
       17 pass pauses the execution for 1 sec of time
       18 try
       19 while
       20 from (from whole import sub)
       21 for
       22 raise user can raise
       23 lambda anynomus function
       24 etc...
       25
       26
```

...

```
In [2]: 1 import keyword
        2 kn=keyword.kwlist
        3 print(kn)
```

...

Operators in Python

- any thing that operation between operands
- a+b:
 - o is the operator performs addition on operands a & b
- **arithmetic operators**
 - +,-,/, * (power),%
- **boolean operators**
 - False or True/0 or 1
- **comparisional operators**

- <,<=,>,>=,==,!=
- **assignment operators**
 - =,+=,-=,*=,/=
- **membership operators**
 - in, not in
- **logical operators**
 - and ,or
- **identity operators**
 - is, is not

dynamic reading from the user

```
In [2]: 1 val=10 # static declaration, fixed
        2 print("value stored in val is ",val)
        3
        4
```

value stored in val is 10

```
In [3]: 1 name="pallavi"
        2 print(name)
        3
        4
```

pallavi

Dynamic inputs

- input():pre defined function
- string type of data
- integer type:int(input())
- float type:float(input())

```
In [4]: 1 # write a python program to read your clg name and display it
        2 clg=input("Enter your college name:")
        3 print("Your college name is",clg)
        4
        5
```

Enter your college name:vemu institute of technology
Your college name is vemu institute of technology

```
In [1]: 1 # read 2 integers from user and perform all arithmetic operations
        2 first=int(input("Enter the first number:"))
        3 second=int(input("Enter the second number:"))
        4 print(first,second) # outputs can be separated by ','
        5 s=first+second
        6 d=first-second
        7 pt=first*second
        8 co=first/second
        9 r=first%second
        10 pr=first**second
        11 print("addition=",s)
```

```

12 print("difference=",d)
13 print("product=",pt)
14 print("co-efficient=",co)
15 print("remainder=",r)
16 print("power=",pr)
17

```

Enter the first number:89

Enter the second number:34

89 34

addition= 123

difference= 55

product= 3026

co-efficient= 2.6176470588235294

remainder= 21

power= 1902217732808760980190430983601716818363305103120555045416541165041

```

In [2]: 1 # read 2 integers from user and perform all arithmetic operations
        2 first=int(input("Enter the first number:"))
        3 second=int(input("Enter the second number:"))
        4 print(first,second) # outputs can be separated by ','
        5 print("addition=",first+second)
        6 print("difference=",first-second)
        7 print("product=",first*second)
        8 print("co-efficient=",first/second)
        9 print("remainder=",first%second)
        10 print("power=",first**second)
        11
        12

```

Enter the first number:34

Enter the second number:10

34 10

addition= 44

difference= 24

product= 340

co-efficient= 3.4

remainder= 4

power= 2064377754059776

```

In [3]: 1 cgpa=float(input("enter the value:")) # float ga
        2 cgpa
        3

```

enter the value:8

Out[3]: 8.0

Type Casting

- means Type Conversion
- 2 types :implicit and explicit
- python allows implicit conversion by default
- implicit casting:
 - default conversion by the processor

- explicit conversion:
 - conversion by the user/programmer

```
In [4]: 1 x=10 # no type declaration
        2 y=87.4
        3 print(x+y) # float value at the end,implicit conversion
        4
        5
97.4
```

```
In [5]: 1 # Explicit Conversion
        2 f,s=int(input()),float(input()) # f is int,s is float
        3 # addition
        4 fl=float(f)
        5 print(f+s)
        6 print(fl+s)
        7
        8
9
345
354.0
354.0
```

```
In [6]: 1 # conversion from str to int
        2 num=123
        3 st="123" # into directly
        4 print(type(num))
        5 type(st)
        6
        7
<class 'int'>
```

Out[6]: str

```
In [7]: 1 #can you convert "your name " into integer ?
        2 n=int(st)
        3 n
        4
        5
```

Out[7]: 123

```
In [8]: 1 st
        2
```

Out[8]: '123'

Data types

- type / category to which the variable/value belongs
- int
 - int() # pre defined function
- float
 - float() # value

- string
 - `str()` # `input()` # string

```
In [9]: 1 # Boolean operators:true/false
        2 n is 123 # boolean
        3 # identity operator
        4
        5
```

Out[9]: True

```
In [10]: 1 n is not 10
         2
         3
```

Out[10]: True

```
In [11]: 1 n!=10
         2
         3
```

Out[11]: True

```
In [12]: 1 n!=123
         2
         3
```

Out[12]: False

```
In [13]: 1 n,m=10,35
         2 n=m
         3
         4
```

```
In [14]: 1 n
         2
         3
```

Out[14]: 35

```
In [15]: 1 m
         2
```

Out[15]: 35

```
In [16]: 1 n is m
         2
```

Out[16]: True

```
In [17]: 1 clg="VEMU"
         2 clg
         3
```

Out[17]: 'VEMU'

```
In [18]: 1 "A" in clg #
         2
         3
```

Out[18]: False

```
In [19]: 1 "E" in "VEMU"
          2
```

Out[19]: True

```
In [20]: 1 "V" not in "VEMU" # membership operator
          2
```

Out[20]: False

```
In [21]: 1 AND: True,False
          2 OR:False,True
          3
```

...

```
In [22]: 1 a,b=10,60
          2 c,d=90,39
          3 (a is 10) and (c is 80) # 1 && 0
          4
```

Out[22]: False

```
In [23]: 1 a is 10 or c is 56 # True
          2
```

Out[23]: True

Conditionals in Python

- we put statements under some condition
- if,else,elif
- syntax:
 - if condition:
 - statement goes here

```
In [24]: 1 # program to check the even number possibility
          2 even=80
          3 if even%2==0:
          4     print("Even")
```

even

```
In [26]: 1 d=int(input("Enter the number:"))
          2 if d%2 is 0:
          3     print("Even")
          4 else:print("Odd") # single
          5
          6
```

Enter the number:9

Odd

```
In [27]: 1 # read 3 numbers from user and print the largest number
          2 x=int(input())
          3 y=int(input())
          4 z=int(input())
          5 #610,570,810
```

```
6 if x>y and x>z: # x<y and x<z
7     print("first is greatest",x)
8 elif y>z and y>x:
9     print("second is greatest",y)
10 else:print("third is greatest",z)
11
12
90
54
120
third is greatest 120
```

In [28]:

```
1 # read an integer from user and print whether it is positive or negat
2 num=int(input())
3 #>0 and <0
4 if num>0:
5     print("Positive integer")
6 elif num<0:
7     print("Negative integer")
8 else:
9     print("It is non-negative")
10
11
92
Positive integer
```

In [29]:

```
1 # read the character from user, vowel or consonant
2
```

In []:

```
1
```