Datatype in pythone

In [ ]:
```
a=5
b=5.8
c='hi'
d=True
e=5+3j
f=None
g=[1,2,3]
h=(1,2,3)
i={1:'a',2:'b'}
j={1,2,3}

print(type(a))
print(type(b))
print(type(c))
print(type(d))
print(type(e))
print(type(f))
print(type(g))
print(type(h))
print(type(i))
print(type(j))
```

print

dir(**builtins**)

In [24]:
```
print("apple","banana","cherry",sep="😎(⌐■_■)😎",end="!")
```

```
apple😎(⌐■_■)😎banana😎(⌐■_■)😎cherry!
```

In [22]:
```
x=8
y=9
print(f"the sum of {x} and {y} is {x+y}")
```

```
the sum of 8 and 9 is 17
```

import this

math module

In [25]:
```
import math
```

In [26]:
```
math.pi
```

Out[26]:
```
3.141592653589793
```

In [32]:
```
x=math.pi
print(f"the value of pi upto two decimal is {x:.2f}")
```

```
the value of pi upto two decimal is 3.14
```

Naming rules for defining variable

- The veriable must start with letter or_
- The name must only use alphanumeric and/or_
- Variable is case sensitive
- It must not start with noumber

Commenting

In [52]:
```
#Define a variable
x=5
y=10 # inline comment
print(x,y)
"""
This is multiline comment
"""
```

```
5 10
```

Out[52]:
```
'\nThis is multiline comment\n'
```

infinity define

In [53]:
```
x=math.inf
```

In [54]:
```
x>100000
```

Out[54]:
```
True
```

input method

- used to take input from user and gives output in string by default

In [56]:
```
m=input("Enter number -")
print(type(m))
```

```
Enter number -23
<class 'str'>
```

In [55]:
```
whos
```

```
Variable   Type        Data/Info
-------------------------------
a          int         100
b          float       5.8
c          str         hi
d          bool        True
e          complex     (5+3j)
f          NoneType    None
g          list        n=3
h          tuple       n=3
i          dict        n=2
j          set         {1, 2, 3}
math       module      <module 'math' (built-in)>
this       module      <module 'this' from 'C:\\<...>Anaconda3\\lib\\this.py'>
x          float       inf
y          int         10
```

Typecasting

In [87]:
```
x="1"
x=str(x)
print(x)
print(type(x))
```

```
2147483648
<class 'int'>
```

Operator in Pythone

ARITHMATIC OPERATOR

- +,-,/,//,,*,%

In [88]:
```
a=4/2
print(type(a))
```

```
<class 'float'>
```

In [89]:
```
a=5**2
print(a)
```

```
25
```

COMPARISON OPERATORS

- ==.!=,<,>,<=,>=

In [92]:
```
0==False
```

Out[92]:
```
True
```

MEMBERSHIP OPERATORS

- in
- not in

In [96]:
```
5 in [1,2,3,4,5]
```

Out[96]:
```
True
```

In [98]:
```
'z'not in 'pythone'
```

Out[98]:
```
True
```

ASSIGMENT OPERATORS

In [102]:
```
a=5
a+=5
print(a)
```

```
10
```

TERNARY OPERATOR

In [105]:
```
age=20
rule="not allowed to smoke" if age<18 else "allowed but dangerous"
print(rule)
```

```
allowed but dangerous
```

LOGICAL OPERATORS

- not x

    - Reaturns True if x is false otherwise False
- x or y
    - Reaturns y if False ,x otherwise
- x and y
    - Reaturns x if x is False, y otherwise

In [112]:
```
x=6
y=0
x or y
```

Out[112]: 6

In [114]:
```
x=5
y=0
x and y
```

Out[114]: 0

operator precedence

	Operator	Associativity	Precedence
() [] . −>	Function call Array subscript Dot (Member of structure) Arrow (Member of structure)	Left-to-Right	Highest 14
! ~ − ++ −− & * (type) sizeof	Logical NOT One's-complement Unary minus (Negation) Increment Decrement Address-of Indirection Cast Sizeof	Right-to-Left	13
* / %	Multiplication Division Modulus (Remainder)	Left-to-Right	12
+ −	Addition Subtraction	Left-to-Right	11
<< >>	Left-shift Right-shift	Left-to-Right	10
< <= > >=	Less than Less than or equal to Greater than Greater than or equal to	Left-to-Right	8
== !=	Equal to Not equal to	Left-to-Right	8
&	Bitwise AND	Left-to-Right	7
^	Bitwise XOR	Left-to-Right	6
|	Bitwise OR	Left-to-Right	5
&&	Logical AND	Left-to-Right	4
||	Logical OR	Left-to-Right	3
? :	Conditional	Right-to-Left	2
=, += *=, etc.	Assignment operators	Right-to-Left	1
,	Comma	Left-to-Right	Lowest 0

In [115]:
```
2**3**2
```

Out[115]: 512

#WAP to calculate Area of circle and circum with user given input of radius

In [121]:
```
r=int(input("Enter number"))
print(f"Area is {math.pi*r*r:.2f} and circum is {2*math.pi*r:.2f}")
```

```
Enter number5
Area is 78.54 and circum is 31.42
```

WAP convert days into number of year, number of months and number of days

In [4]:
```
days=int(input("Enter days :"))
year=days//365
month=(days-(year*365))//30
day=int(days-(year*365)-(month*30))

print(year)
print(month)
print(day)
```

```
Enter days :398
1
1
3
```

WAP to take a user input of two degit number give that output as follow

In [8]:
```
num=input("Enter number :")
num1=num+num
num2=num+num+num
print(int(num)+int(num1)+int(num2))
```

```
Enter number :35
357105
```

WAP to convert F to C and C to F

In [12]:
```
c1=float(input("Enter celcius"))
f1=(c*(9/5))+32
print(f1)
f2=float(input("Enter fahrenheit"))
c2=(f2-32)*(5/9)
print(c2)
```

```
Enter celcius45
113.0
Enter fahrenheit113
45.0
```

In [ ]:
```

```