

NUMBER SYSTEM

Number system

- 1 Binary numbers
- 2 Octal number
- 3 Hexa number
- 4 Decimal number



Binary number : *Represented by 0 and 1

Binary: It represent in 0's and 1's

#implicit

Variable name = Data

ex: a=0b1010

print(a)

print(type(a))

#explicit

Variable = bin (Data)

ex:a = bin(0b1010)

print(a)

print(type(a))

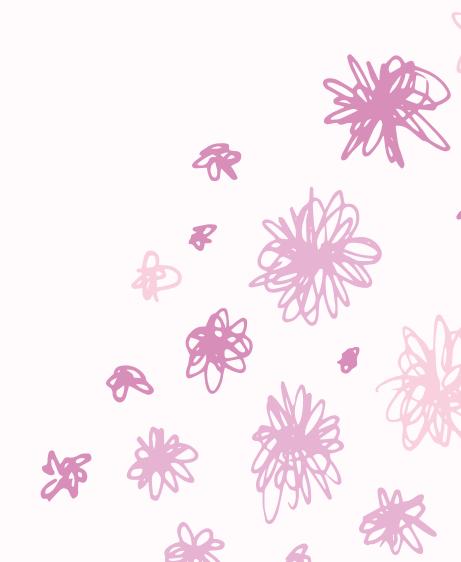
#data type / variable annotation :

Variable : bin =Data

ex: a: bin = 0b1010

print(a)

print(type(a))



Octal Number : rep by 0o (0 to7)

#implicit

Var name = Data

ex: a = 0o1234

print (a)

print(type(a))

#explicit

Var name = Data type(data)

ex : a = oct(0o1234)

print(a)

print(type(a))

#data type / var annotation :

Var name : data type = data

ex : a:oct = 0o1234

print(a)

print(type(a))

Hexa number : rep by ‘0x’ (0 to 9) and (a to f))

#implicit :

```
Var name = data  
ex : a = 0xABCD  
print(a)  
print(type(a))
```

#explicit :

```
Var name = data type (data)  
ex : a = hex ( 0xABCD)  
print(a)  
print(type(a))
```

#data type / var annotation :

```
Var name : data type = data  
ex : a: hex = 0xABCD  
print(a)  
print(type(a))
```

Decimal number system : Rep from 0 to 9 (Total 10)

Types :

- **Integer** : Rep the non-precision value (1,2,3.....)
- **Float** : Rep precision numbers(10.23,2.14.....)
- **Exponential** : rep the long float number
- **Complex number** : used to calculate the imaginer number
- Rep by a +bj ,here 'a' is real part , 'b' is the imaginary part

#integer

```
#implicit  
a = 10  
print( a )  
print(type(a))
```

#explicit

```
a = int ( 10 )  
print( a )  
print ( type ( a ) )
```

#data type / variable annotaton :

```
a : int = 10  
print ( a )  
print ( type ( a ) )
```

#Float :

#implicit

a = 10.01

print (a)

print(type(a))

#explicit

a = float (10.01)

print(a)

print(type(a))

#Data type /variable annotation

a: float = 10.01

print(a)

print(type(a))

#Exponential

Ex :

a = 1.2e^2

print(a)

print(type(a))

#Complex number

Ex :

a = 1+2j

b=2+3j

print(a + b)

print(type(a + b))

String data type : string is a series (or) collection of characters

*string data type represent in 3 ways

Syntax : var name = data

Ex :

```
a = "Dhahul"  
print(a)  
print(type(a))
```

Syntax : var name = datatype(data)

Ex :

```
a = str("Dhahul")  
print(a)  
print(type(a))
```

#Data type / variable annotation :

Ex :

```
a: str = ("Dhahul")  
print(a)  
print(type(a))
```

Thank you

