data types and conversions

1. int
2. float
3. string

In [ ]:

```
n1=13
print(n1)
type(n1)
```

In [ ]:

```
n2=13.56
print("n2=",n2)
type(n2)
```

In [ ]:

```
s="nidhi"
print(s)
type(s)
```

In [ ]:

```
n =13
m ="string"
type(n)
type(m) #only last one i.e m result is printing
```

In [ ]:

```
n =13
m ="string"
print(type(n))
print(type(m)) # both types will be printed
```

In [ ]:

```
n=13
print(type(n))
```

In [ ]:

```
# converting above n to string
n=13
print(type(n))
print(type(str(n)))
```

In [ ]:

```
# another method of converting data type
n1=23
s= str(n1)
print(type(s))
```

In [ ]:

```
num1="12"
num2="10"
print(num1+num2)# arithmetic operations cannot be performed
                        # on str data type
```

In [ ]:

```
s1="sai"
s2="nidhi"
print(s1+s2)
# concatenation will be done to strings
```

In [ ]:

```
n1= 12.5
n2=10.9
print(n1+n2)
# float numbers are here so it will be added
```

INDENTATIONS

this means we have to give a tab space inside loops or statements. it is mandatory

In [ ]:

```
n1,n2=13,12
if(n1<n2):     # we are giving : as part of syntax given for all statements
    print("n1 is greater than n2")
else:     # if and else must be on same line
    print("wrong input")
```

reading input dynamically

In [ ]:

```
x=input()
print(x) # in  output we give the data by default gives str type
print(type(x))
```

In [ ]:

```
n=int(input())  # here we are changing the data type of input and then executing it
print(n)
print(type(n))
```

In [ ]:

```
a=123
print(type(a))
f= float(a)
print(type(f))
print(a)
print(f)
```

In [2]:

```
f=float(input("enter a value:"))
print(f)
print(type(f))
```

```
enter a value:12.5
12.5
<class 'float'>
```

operators

1. arithmetic operators
2. assignment operators
3. comparison operators
4. logical operators
5. identity operators
6. membership operators
7. bitwise operators

1. arithmetic

- , + ,* , / , % (modular div), // (round figure or seal value) , ** (power)

In [3]:

```
a,b =5,3
print(a+b)
print(a-b)
print(a*b)
print(a/b)
print(a//b)
print(a**b)
```

```
8
2
15
1.6666666666666667
1
125
```

2. assignment operator

= , += , -= , *= ,etc.,

In [4]:

```
a=12
print(a)
```

```
12
```

In [5]:

```
a +=1  #a=a+1
print(a)
```

```
13
```

3. comparison operator

, < , >= , <= , == , !=

In [6]:

```
n1,n2=5,3
print(n1==n2)
```

```
False
```

4. logical operators

and, or, not

In [7]:

```
a=5
print(a<6 and a>2)
```

```
True
```

In [8]:

```
res= a<6 or a>2
print(not(res))
```

```
False
```

5. identity operators

is, is not

In [9]:

```
x,y=5,3
print(x is y)
```

```
False
```

In [10]:

```
x,y=5,3
print(x is not y)
```

```
True
```

6. membership operators

in,not in

In [ ]:

```

```

In [ ]:

```
print('banana' not in fruits)
```

7. bitwise operator

& and ,| or,^ exor,>> ,<< ,~ not

In [11]:

```
a=int(input("enter value 1:"))
b=int(input("enter value 2:"))
print(a&b)
```

```
enter value 1:5
enter value 2:3
1
```

In [12]:

```
a|b
```

Out[12]:

```
7
```

looping statements

1. for loop
2. while loop

In [ ]:

```

```