Data Types and Convertions

1. int
2. float
3. string

In [2]:

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

```
n1 = 13
```

Out[2]:

```
int
```

In [3]:

```
n2 = 13.34
print("n2 =",n2)
type(n2)
```

```
n2 = 13.34
```

Out[3]:

```
float
```

In [4]:

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

```
apssdc
```

Out[4]:

```
str
```

In [6]:

```
n = 13
m = 4.3
type(n)
type(m)
```

Out[6]:

```
float
```

In [7]:

```
n=13
m=4
print(type(n))
print(type(m))
```

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

In [8]:

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

```
<class 'int'>
<class 'str'>
```

In [9]:

```
n1 = 23
s = str(n1)
print(type(s))
```

```
<class 'str'>
```

In [15]:

```
n1 = 12.5
n2 = 10.9
print(n1+n2)
```

```
23.4
```

In [14]:

```
s1 = "Gumma"
s2 = "swapma"
print(s1+s2)
```

```
Gummaswapma
```

Indentation

In [23]:

```
n1,n2 = 13,12
if(n1>n2):
    print("n1 is greater than n2")
```

```
n1 is greater than n2
```

In [24]:

```
n1,n2 = 13,12
if(n1<n2): #F
    print("n1 is greater than n2")
else:
    print("wrong statement")

```

```
wrong statement
```

Reading input dynamically

In [25]:

```
x = input()
print(x)
print(type(x))
```

```
123
123
<class 'str'>
```

In [26]:

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

```

```
<class 'int'>
<class 'float'>
123
123.0
```

In [28]:

```
n = int(input("Enter a value:"))
print(n)
print(type(n))
```

```
Enter a value123
123
<class 'int'>
```

In [31]:

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

```
Enter a value:23.45
23.45
<class 'float'>
```

Operators

1. Arthmetic operators
2. Assignment operators
3. Comparision operators
4. logical operators
5. Identity operators
6. Membership operators
7. Bitwise operators

1. Arthmetic operators

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

In [32]:

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

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

In [34]:

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

```
a+b = 8
a-b = 2
a*b = 15
a/b = 1.6666666666666667
a%b = 2
a//b = 1
a**b = 125
```

In [35]:

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

```
a+b = 8
a-b = 2
a*b = 15
```

2. Assignment operator

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

In [37]:

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

```
12
```

In [38]:

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

```
13
```

In [39]:

```
a
```

Out[39]:

```
13
```

In [40]:

```
a -= 2 # a=a-2
print(a)
```

```
11
```

In [54]:

```
a = 4
a += 1
print("a=a+1 =",a)
a -= 2
print("a=a-2 =",a)
a *= 2
print("a=a*2 =",a)
a /= 4
print("a=a/4 =",a)
a %= 4
print("a=a%4 =",a)
a //= 2
print("a=a//2 =",a)
a **= 2
print("a=a**2 =",a)

```

```
a=a+1 = 5
a=a-2 = 3
a=a*2 = 6
a=a/4 = 1.5
a=a%4 = 1.5
a=a//2 = 0.0
a=a**2 = 0.0
```

3. Comparision operators

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

In [42]:

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

```
False
True
```

4. Logical operators

1. and,or,not

In [44]:

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

```
True
True
```

In [45]:

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

```
False
```

5. Identity operators

. is,is not

In [48]:

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

```
False
```

In [49]:

```
print(x is not y)
```

```
True
```

In [50]:

```
a,b = 6,6
print(a is b)
print(a is not b)
```

```
True
False
```

6. Membership operators

. in,not in

In [51]:

```
fruits = ["apple","Gova","grapes"]
print('apple' in fruits)
```

```
True
```

In [52]:

```
print('banana' in fruits)
```

```
False
```

In [53]:

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

```
True
```

Bitwise operators

. &,|.^,>>,<<,~

In [57]:

```
a = int(input("Enter 1st value:"))
b = int(input("Enter 2nd value:"))
print(a&b)
```

```
Enter 1st value:5
Enter 2nd value:3
1
```

In [58]:

```
a|b
```

Out[58]:

```
7
```

```

```