Data Types and Conversions

1. int
2. float
3. string

In [4]:

```
1  n1 = 13
2  print("n1 = ",n1)
3  type(n1)
```

n1 = 13

Out[4]:

int

In [5]:

```
1  n2 = 13.56
2  print("n2 = ",n2)
3  type(n2)
```

n2 = 13.56

Out[5]:

float

In [7]:

```
1  s = "apssdc"
2  print(s)
3  type(s)
```

apssdc

Out[7]:

str

In [9]:

```
1  n =13
2  m =4
3  print(type(n))
4  print(type(m))
```

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

In [11]:

```python
1  n = 13
2  print(type(n))
3  print(type(str(n)))
```

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

In [12]:

```python
1  n1 = 23
2  s = str(n1)
3  print(type(s))
```

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

In [13]:

```python
1  num1 = "12"
2  num2 = "10"
3  print(num1+num2)
```

```
1210
```

In [14]:

```python
1  s1 = "Gumma"
2  s2 = "Swapna"
3  print(s1+s2)
```

```
GummaSwapna
```

In [16]:

```python
1  n1 = 12.5
2  n2 = 10.9
3  print(n1+n2)
```

```
23.4
```

Indentation

In [25]:

```python
1  n1,n2 = 13,12
2  if(n1<n2): #F
3      print("n1 is greater than n2")
4  else:
5      print("wrong statement")
```

```
wrong statement
```

Reading input dynamically

In [28]:

```python
1  x = input()
2  print(x)
3  print(type(x))
```

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

In [32]:

```python
1  a = 123
2  print(type(a))
3  f = float(a)
4  print(type(f))
5  print(a)
6  print(f)
```

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

In [35]:

```python
1  n = int(input("Enter a value:"))
2  print(n)
3  print(type(n))
```

```
Enter a value:123
123
<class 'int'>
```

In [36]:

```python
1  f = float(input("Enter a value:"))
2  print(f)
3  print(type(f))
```

```
Enter a value:15.8
15.8
<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 operators

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

In [41]:

```
1  a,b = 5,3
2  print("a+b =",5+3)
3  print("a-b =",5-3)
4  print("a*b =",5*3)
5  print("a/b =",5/3)
6  print("a%b =",5%3)
7  print("a//b =",5//3)
8  print("a**b =",5**3) # 5*5*5
```

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

2.Assignment operator

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

In [45]:

```
1  a = 12
2  print(a)
```

12

In [46]:

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

13

In [47]:

```
1  a
```

Out[47]:

13

In [48]:

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

11

3. Comparison operators

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

In [50]:

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

```
False
True
```

4. Logical operators

- and, or, not

In [55]:

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

```
True
True
```

In [56]:

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

```
False
```

5.Identity operators

- is, is not

In [58]:

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

```
False
```

In [59]:

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

```
True
```

In [62]:

```python
1  a,b = 6,6
2  print(a is b)
3  print(a is not b)
```

True
False

6. Membership operators

- in, not in

In [64]:

```python
1  fruits = ["apple","gova","grapes"]
2  print('apple' in fruits)
```

True

In [65]:

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

False

In [66]:

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

True

7.Bitwise operators

- &, |, ^, >>, <<, ~

In [68]:

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

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

Out[68]:

1

In [69]:

```python
1  a|b
```

Out[69]:

7

In [70]:

```python
1  print(~5)
```

-6

In [8]:

```python
1  print(0.1*5==0.5)
2  print(0.1*7==0.7)
3  print(0.1*9==0.9)
```

True
False
True

In [9]:

```python
1  print((0.1)*3 == (0.3))
```

False

In [11]:

```python
1  (0.1)*3
```

Out[11]:

0.30000000000000004

In [12]:

```python
1  0.1*9
```

Out[12]:

0.9

In [ ]:

```python
1
```