Comments
Comments are nothing providing description about each and every statement within program. Python support only one type comment single line comment
In python comments are defined using # sign (pound)
Comments are not executed by python translator

Example:
```
#this is comment

#print("Hello")

#rno --> rollno
rno=101
#name --> studentname
name="naresh"
course="python" # student course

# displaying student information
print(rno,name,course)
```

Output
101 naresh python

input() function

input() is a predefined function in python.
This function is used to input data from keyboard (OR) to input data during runtime.

This function is used to input single value or one value.
This function is used to input single value of type string.

Syntax: <variable-name>=input([prompt])

Prompt is string/message which is displayed before input value

Example:
```
# input
rno=input("Enter Student Rollno :")
```

```
name=input("Enter Student Name :")
course=input("Enter Student Course :")

#output
print("StudentRollno :",rno)
print("StudentName :",name)
print("StudentCourse :",course)
```

Output

```
Enter Student Rollno :1
Enter Student Name :nareshh
Enter Student Course :python
StudentRollno : 1
StudentName : nareshh
StudentCourse : python
```

Example:

```
a=input("input value of a")
b=input("input value of b")
c=a*b
print(a,b,c)
```

Output

```
input value of a5
input value of b2
Traceback (most recent call last):
  File "D:/fspmar5pm/test16.py", line 3, in <module>
    c=a*b
TypeError: can't multiply sequence by non-int of type 'str'
```

Type casting or Type Conversion

What is type casting or type conversion?

Type casting or type conversion is a process of converting one type of value to another type (OR) one type of object to another type

Type conversions are two types

1. Explicit typecasting or type conversion
2. Implicit typecasting or type conversion

Explicit typecasting or type conversion

The type conversion done by programmer using type conversion functions is called explicit type casting or conversion.

Type conversion functions

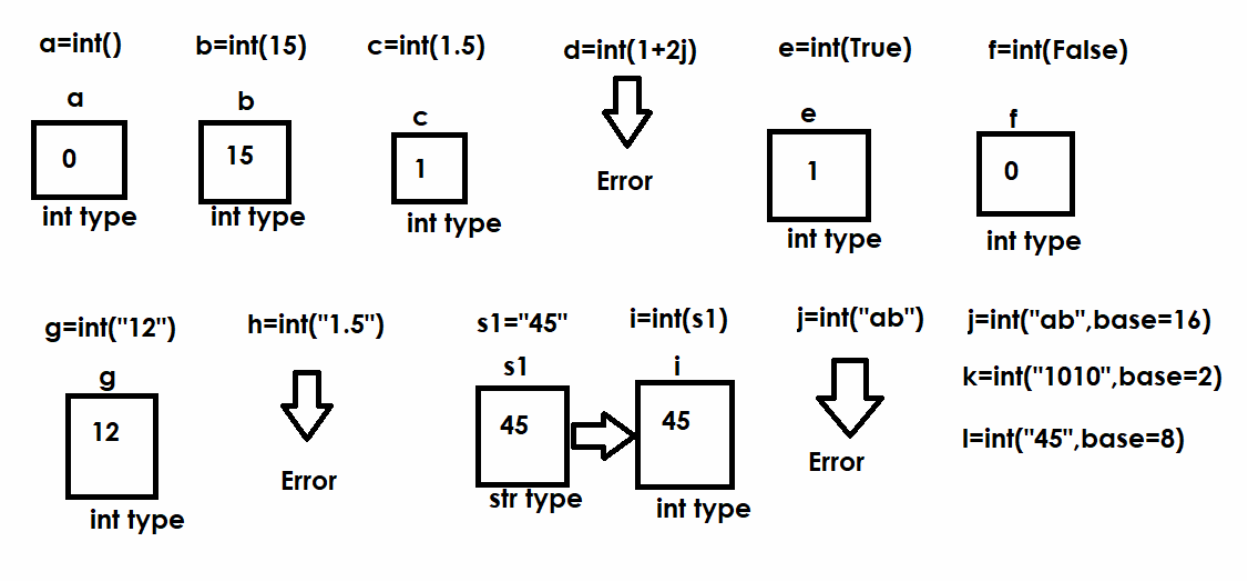
1. Int()
2. Float()
3. Complex()
4. Bool()
5. Str()

Int() function

int() is predefined function in python.
This function is used to perform the following conversions

1. Int to int
2. String to int
3. Float to int
4. Bool to int

Syntax1: int(value=0)
Syntax2:int(value,base=10)



Example:

```
a=int()
print(a,type(a))
b=int(15)
print(b,type(b))
c=int(124.56)
print(c,type(c))
d=int(True)
print(d,type(d))
e=int(False)
print(e,type(e))
f=int("45")
print(f,type(f))
#g=int("1.5")
#g=int(1+2j)
g=int("ab",base=16)
print(g,type(g))
h=int("1010",base=2)
print(h,type(h))
i=int("12",base=8)
print(i,type(i))
```

Output

```
0 <class 'int'>
15 <class 'int'>
124 <class 'int'>
```

1 <class 'int'>
0 <class 'int'>
45 <class 'int'>
171 <class 'int'>
10 <class 'int'>
10 <class 'int'>

Example:

```
# Write a program to print sum of two numbers
# input two numbers during runtime or keyboard

#input
num1=input("Enter First Number ")
num2=input("Enter Second Number ")

#Process
num3=int(num1)+int(num2)

#output
print(num1,num2,num3,sep="\n")
```

Output

```
Enter First Number 5
Enter Second Number 2
5
2
7
```

Example:

```
# Write a program to print sum of two numbers
# input two numbers during runtime or keyboard

#input
num1=int(input("Enter First Number "))
num2=int(input("Enter Second Number "))

#Process
num3=num1+num2

#output
```

```
print(num1,num2,num3,sep="\n")
```

Output

```
Enter First Number 10
Enter Second Number 20
10
20
30
```

Example:

```
# Write a program to swap two integer value
a=int(input("Enter First Number :"))
b=int(input("Enter Second Number :"))

print("Before Swaping ",a,b)

#Method-1
c=a
a=b
b=c
print("After Swaping ",a,b)

#Method-2
a=a+b
b=a-b
a=a-b
print("After Swaping ",a,b)

#Method-3
a,b=b,a
print("After Swaping ",a,b)
```

Output

```
Enter First Number :10
Enter Second Number :20
Before Swaping  10 20
After Swaping  20 10
After Swaping  10 20
After Swaping  20 10
```

float() function

float() is a predefined function in python
This function is used to perform the following conversions

1. Float to float
2. Int to float
3. String to float
4. Bool to float

Syntax: float(value=0.0)