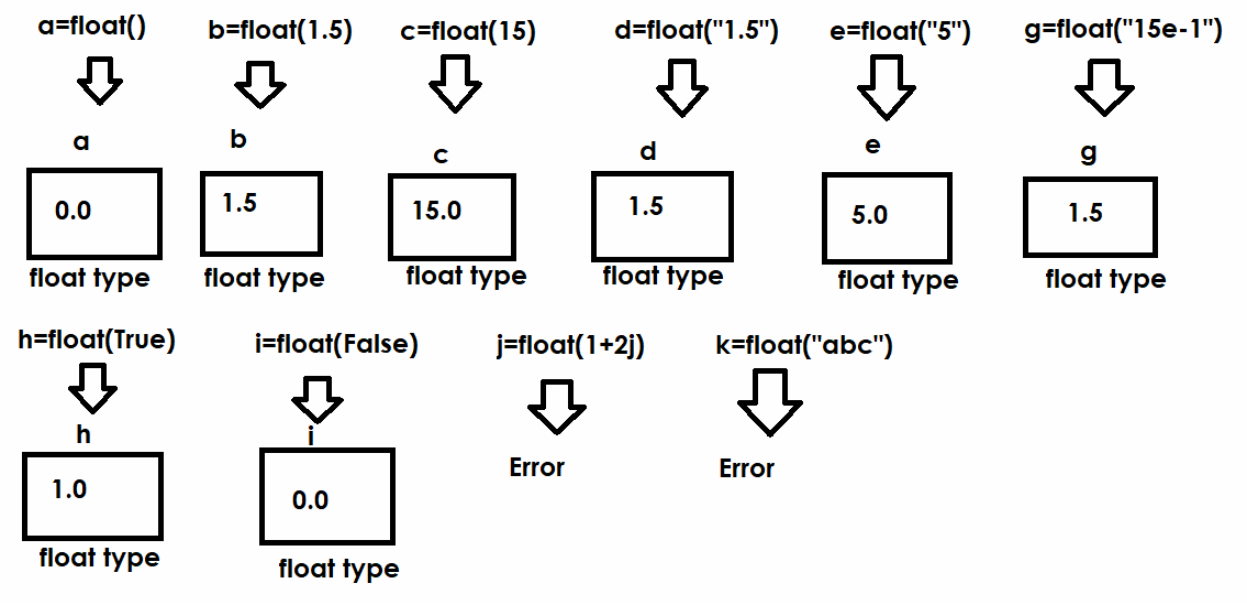
float() function

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)



Example:

```
a=float()
b=float(1.5)
c=float(15)
d=float("1.5")
e=float("1.5e1")
f=float("15e-1")
g=float("15")
h=float(True)
i=float(False)
print(a,b,c,d,e,f,g,h,i,sep="\n")
#j=float("ab") Error
```

Output

```
0.0
1.5
15.0
1.5
15.0
1.5
15.0
1.0
0.0
```

Example

```
# Write a program to find area of triangle
# area=0.5*base*height

#input
base=float(input("Input Base of Triangle :"))
height=float(input("Input Height of Triangle :"))

#Process
area=0.5*base*height

#Output
print("Area of triangle is ",area)
```

Output

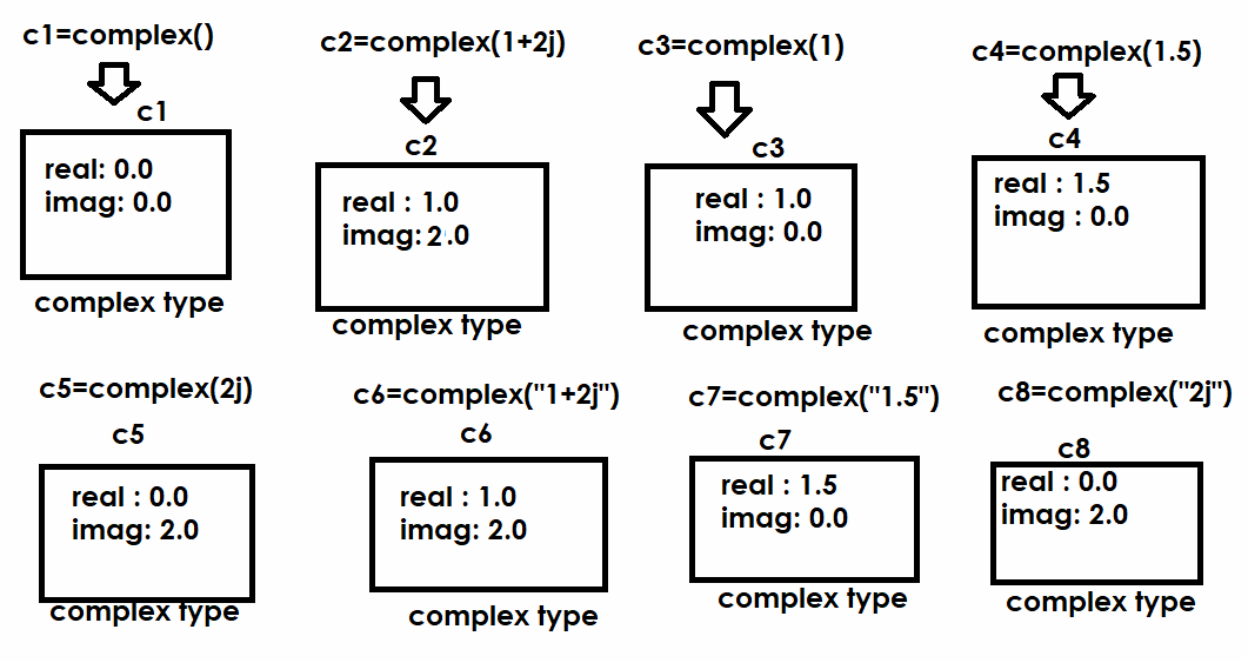
```
Input Base of Triangle :1.2
Input Height of Triangle :1.3
Area of triangle is  0.78
```

complex() function

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

1. Complex to complex
2. Int to complex
3. Float to complex
4. Boolean to complex
5. String to complex

Syntax: <variable-name>=complex(value)



Example:

```
c1=complex()
c2=complex(1+2j)
c3=complex("1+2j")
c4=complex("2j")
c5=complex("1")
c6=complex(1)
c7=complex(1.5)
c8=complex(True)
c9=complex(False)
print(c1,c2,c3,c4,c5,c6,c7,c8,c9,sep="\n")
#c10=complex("ab")
```

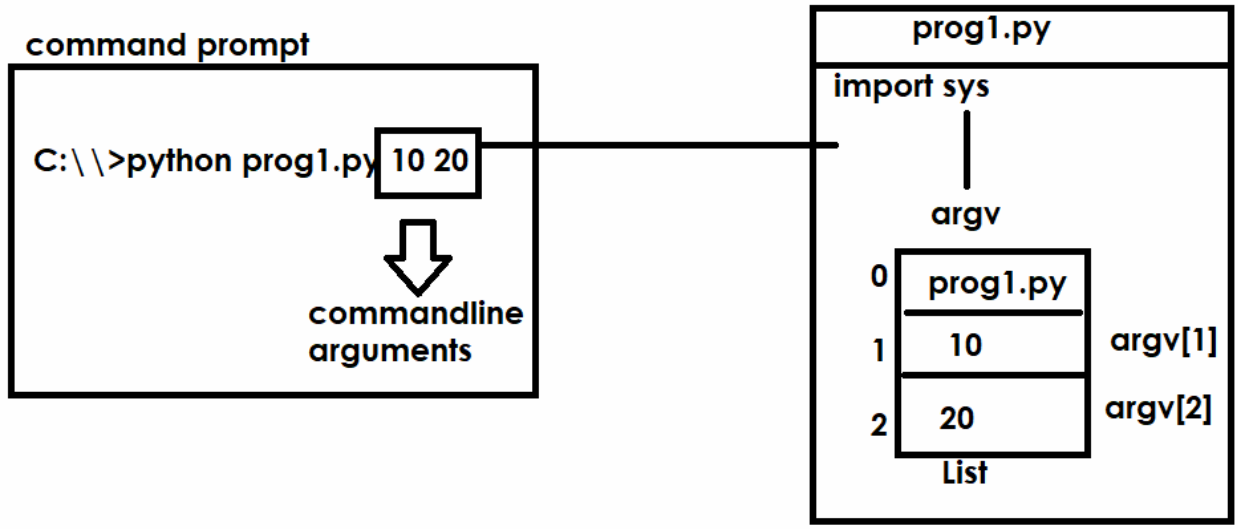
Output

0j
(1+2j)
(1+2j)
2j
(1+0j)
(1+0j)
(1.5+0j)
(1+0j)
0j

Command line arguments

What are command line arguments?
The arguments or values send from command prompt to program are called command line arguments

Command line arguments are of type string



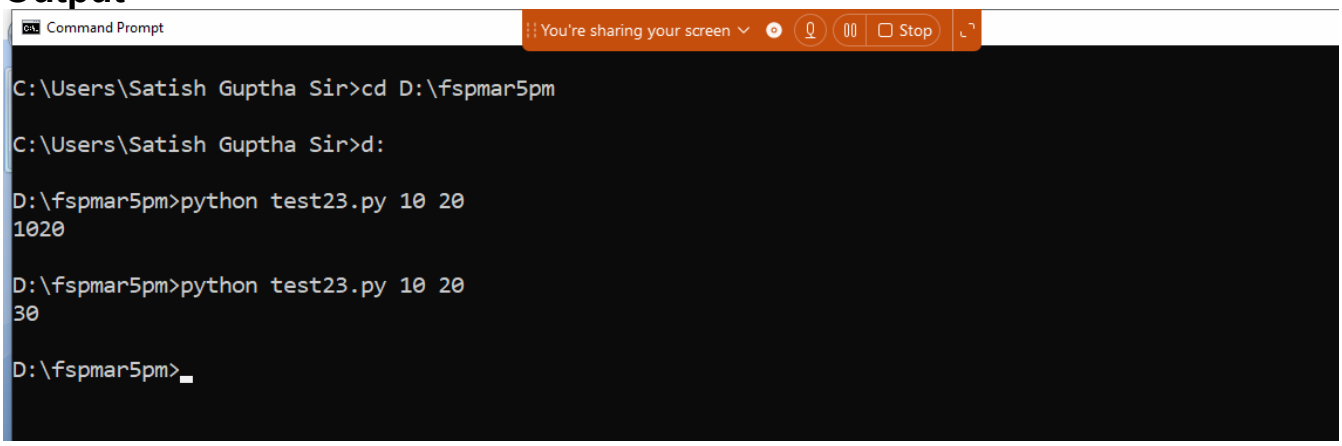
What is argv?
“argv” is a predefined variable exist in “sys” module
Command line arguments are stored inside argv variable.
“argv” is variable of type list
Inside this list all values are stored in “string” type.

Example:
Write a program to print sum of two integers
input two integers from command prompt as command

line arguments

```
import sys

res=int(sys.argv[1])+int(sys.argv[2])
print(res)
```

Output



Example:

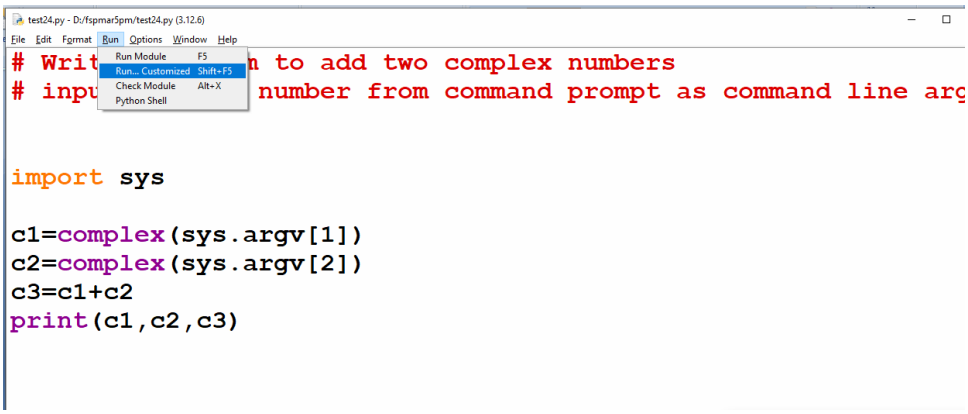
Write a proram to add two complex numbers
input complex number from command prompt as command line arguments

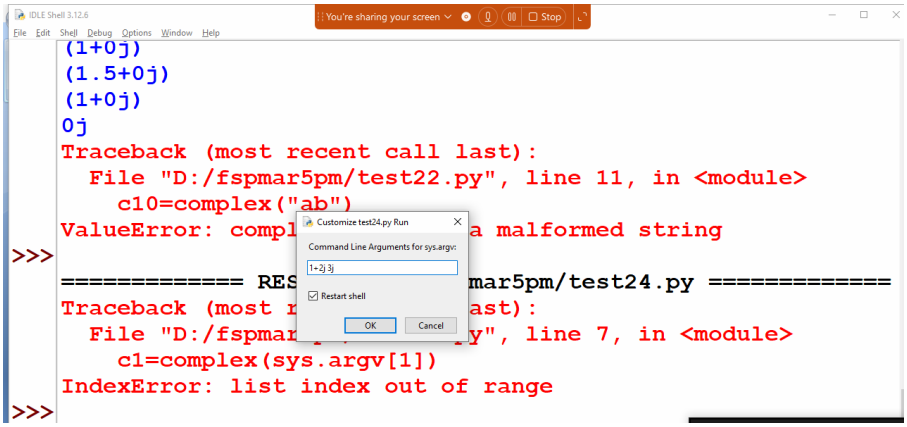
```
import sys

c1=complex(sys.argv[1])
c2=complex(sys.argv[2])
c3=c1+c2
print(c1,c2,c3)
```

```
D:\fspmar5pm>python test24.py 1+2j 1+3j
(1+2j) (1+3j) (2+5j)

D:\fspmar5pm>python test24.py 1 2
(1+0j) (2+0j) (3+0j)

D:\fspmar5pm>
```

How to given command line arguments from IDLE (OR) how to test program with command line argument using IDLE?

- ⇨ Run
  - ○ Run Customized





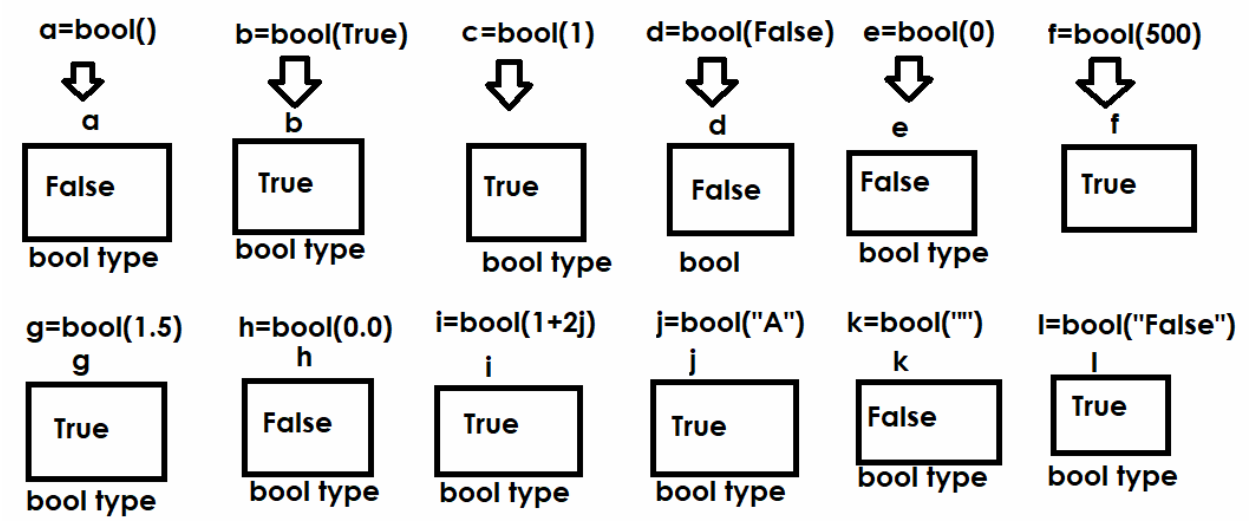
bool()

It is a predefined function in python.

This function is used to perform the following conversions

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

Syntax: <variable-name>=bool(value)


a=bool()
a
False
bool type
b=bool(True)
b
True
bool type
c=bool(1)
True
bool type
d=bool(False)
d
False
bool
e=bool(0)
e
False
bool type
f=bool(500)
f
True
g=bool(1.5)
g
True
bool type
h=bool(0.0)
h
False
bool type
i=bool(1+2j)
i
True
bool type
j=bool("A")
j
True
bool type
k=bool("")
k
False
bool type
l=bool("False")
l
True
bool type