Type Casting

In [ ]:

```
1. int  to float
2. float to int
3. int to complex
4. float to complex
5. complex to int     # Not possible
6. complex to float   # not possible
7. int to str
8. float to str
9. str to int        # possible with some condition Str must be real format
10. str to float     # possible with some condition Str must be real format
```

1. int to float

In [2]:

```
x=653
print(f"value of x is {x} and type is {type(x)} ")

y=float(x)
print(f"value of y is {y} and type is {type(y)} ")
```

```
value of x is 653 and type is <class 'int'>
value of y is 653.0 and type is <class 'float'>
```

In [4]:

```
m=78
m
float(m)
```

Out[4]:

```
78.0
```

In [5]:

```
float(356)
```

Out[5]:

```
356.0
```

2. float to int

In [6]:

```
int(67.89)
```

Out[6]:

```
67
```

In [7]:

```
x=653.890
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
```

```
value of x is 653.89 and type is <class 'float'>
value of y is 653 and type is <class 'int'>
```

In [8]:

```
int(0.000084)
```

Out[8]:

```
0
```

3.int to complex

In [9]:

```
num1=983
complex(num1)
```

Out[9]:

```
(983+0j)
```

In [10]:

```
complex(44)
```

Out[10]:

```
(44+0j)
```

4.float to complex

In [11]:

```
marks=98.67
complex(marks)
```

Out[11]:

```
(98.67+0j)
```

In [12]:

```
complex(-6.0089)
```

Out[12]:

```
(-6.0089+0j)
```

5. complex to int

In [13]:

```
c=10+9j
int(c)
```

```
---------------------------------------------------------------------------
--
TypeError                                 Traceback (most recent call las
t)
Cell In[13], line 2
      1 c=10+9j
----> 2 int(c)

TypeError: int() argument must be a string, a bytes-like object or a real
number, not 'complex'
```

6.complex to float

In [19]:

```
float(23+6j)
```

```
---------------------------------------------------------------------------
--
TypeError                                 Traceback (most recent call las
t)
Cell In[19], line 1
----> 1 float(23+6j)

TypeError: float() argument must be a string or a real number, not 'compl
ex'
```

7.int to str

In [20]:

```
1 str(45)
```

Out[20]:

'45'

In [21]:

```
1 type(45)
2
```

Out[21]:

int

In [22]:

```
1 type('45')
```

Out[22]:

str

In [24]:

```
1 x=653
2 print(f"value of x is {x} and type is {type(x)} ")
3
4 y=str(x)
5 print(f"value of y is {y} and type is {type(y)} ")
6 y
```

```
value of x is 653 and type is <class 'int'>
value of y is 653 and type is <class 'str'>
```

Out[24]:

'653'

8. float to str

In [25]:

```
1 str(78.98)
```

Out[25]:

'78.98'

In [26]:

```
str(-10.8965)
```

Out[26]:

```
'-10.8965'
```

In [27]:

```
x=653.789
print(f"value of x is {x} and type is {type(x)} ")

y=str(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is 653.789 and type is <class 'float'>
value of y is 653.789 and type is <class 'str'>
```

Out[27]:

```
'653.789'
```

9. str to int

In [29]:

```
name='pratik'
type(name)
```

Out[29]:

```
str
```

In [30]:

```
int(name)
```

```
---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[30], line 1
----> 1 int(name)

ValueError: invalid literal for int() with base 10: 'pratik'
```

In [31]:

```
x='653'
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is 653 and type is <class 'str'>
value of y is 653 and type is <class 'int'>
```

Out[31]:

```
653
```

In [32]:

```
x='     653'
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is      653 and type is <class 'str'>
value of y is 653 and type is <class 'int'>
```

Out[32]:

```
653
```

In [33]:

```
x='     653          '
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is      653          and type is <class 'str'>
value of y is 653 and type is <class 'int'>
```

Out[33]:

```
653
```

In [34]:

```
x='     65 3          '
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is      65 3           and type is <class 'str'>

---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[34], line 4
      1 x='     65 3          '
      2 print(f"value of x is {x} and type is {type(x)} ")
----> 4 y=int(x)
      5 print(f"value of y is {y} and type is {type(y)} ")
      6 y

ValueError: invalid literal for int() with base 10: '     65 3          '
```

In [35]:

```
x='     65,3          '
print(f"value of x is {x} and type is {type(x)} ")

y=int(x)
print(f"value of y is {y} and type is {type(y)} ")
y
```

```
value of x is      65,3           and type is <class 'str'>

---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[35], line 4
      1 x='     65,3          '
      2 print(f"value of x is {x} and type is {type(x)} ")
----> 4 y=int(x)
      5 print(f"value of y is {y} and type is {type(y)} ")
      6 y

ValueError: invalid literal for int() with base 10: '     65,3          '
```

10. str to float

In [36]:

```
1 float("567.98")
```

Out[36]:

567.98

In [37]:

```
1 float('67.89     ')
```

Out[37]:

67.89

In [38]:

```
1 float('      -786.543        ')
```

Out[38]:

-786.543

In [39]:

```
1 float('      -786. 543        ')
```

```
---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[39], line 1
----> 1 float('      -786. 543        ')

ValueError: could not convert string to float: '      -786. 543        '
```

In [40]:

```
1 float('      -786.54,3        ')
```

```
---------------------------------------------------------------------------
--
ValueError                                Traceback (most recent call las
t)
Cell In[40], line 1
----> 1 float('      -786.54,3        ')

ValueError: could not convert string to float: '      -786.54,3        '
```

In [41]:

```
1 float('56')
```

Out[41]:

```
56.0
```

In [53]:

```
1 # str to int convesrion
2 marks='87.65'   # str
3 print(type(marks))
4 m=float(marks)
5 print(int(m), type(int(m)))
6
7
```

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

In [57]:

```
1 marks='87.65'   # str
2 print(marks, type(marks))
3 z=int(float(marks))
4 print(z, type(z))
```

```
87.65 <class 'str'>
87 <class 'int'>
```

In [ ]:

```
1
```