Live 2025-10-13

October 14, 2025

1 First steps with Python

Some text. Some **bold** text.

[2]:
```
2 + 3
```

[2]:
```
5
```

Ah so we now that the sum of 2 and 3 is 5

[6]:
```
a = 5
b = 6
```

[9]:
```
a + b
```

[9]:
```
13
```

[12]:
```
a = 7.5
```

[13]:
```
type(a)
```

[13]:
```
float
```

[14]:
```
a + "hello"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[14], line 1
----> 1 a + "hello"

TypeError: unsupported operand type(s) for +: 'float' and 'str'
```

[15]:
```
"hello" + a
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[15], line 1
----> 1 "hello" + a
```

```
TypeError: can only concatenate str (not "float") to str
```

[16]:
```
print(a)
```

```
7.5
```

[18]:
```
myString = f"Nice text and {a} and {a + b}"
print(myString)
```

```
Nice text and 7.5 and 13.5
```

1.1 Now some details

First **immutable** types

[19]:
```
a = 5
b = 6
c = 7
```

[ ]:
```
print(a,b,c)

c = a
```

[22]:
```
print(a,b,c)
```

```
5 6 5
```

[23]:
```
a = 9
```

[24]:
```
print(a,b,c)
```

```
9 6 5
```

Mutable Types

[27]:
```
a = [ 1 , 2]
b = a
c = a.copy()
```

[28]:
```
print(a,b,c)
```

```
[1, 2] [1, 2] [1, 2]
```

[29]:
```
b.append(3)
```

[30]:
```
print(a,b,c)
```

```
[1, 2, 3] [1, 2, 3] [1, 2]
```

[31]:
```
a = [ 5, 6 , 7, 'hello']
```

[32]:
```
print(a,b,c)
```

```
[5, 6, 7, 'hello'] [1, 2, 3] [1, 2]
```

Lists and dictionaries

[33]:
```
myDict = { "name": "Plenk", "age" : 35 }
```

[34]:
```
print(a[2], myDict["age"])
```

```
7 35
```

Loops

[35]:
```
for item in a:
    print(item)
```

```
5
6
7
hello
```

[37]:
```
for ix,item in enumerate(a):
    print(f"{ix} element is: {item}")
```

```
0 element is: 5
1 element is: 6
2 element is: 7
3 element is: hello
```

[44]:
```
# only for integers
for i in range(-7, 7, 1):
    print(i)
```

```
-7
-6
-5
-4
-3
-2
-1
0
1
2
3
4
```

```
5
6
```

[ ]: