Basic Python 1 - Number and String

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1 Variable ( )

1.1 Numerical Variable ( )

[ ]:
```
a = 1
```

[ ]:
```
a
```

[ ]:
```
a = 1 #       a          1
b = 2 #       b          2
c = a + b #       c                    a     b
c
```

[ ]:
```
c
```

=

[ ]:
```
whos
```

1.2 String Variable ( )

' ' " "

" ' string python

1. `text = "I'm fine. Thank you."`
2. `text = 'This is an "important" part.'`

[ ]:
```
a = 'hi, '
b = 'how are you?'
c = a + b #    +    string
c
```

[ ]:
```
name = 'Winn'
money = '10 USD'
sentence = name + ' has ' + money + '.'
sentence
```

2 Data Types ( )

2.1 Number

[ ]:
```
a = 4 # integer
b = 2.0 # float
print(a)
print(b)
```

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

[ ]:
```
type(b)
```

[ ]:
```
c = a + b
type(c)
```

float single double RAM python double
library numpy `numpy.float32`

2.1.1 Number operations

[ ]:
```
print(a+b)
print(a*b)
print(a/b)
print(a**b)
print(a**(1/b))
```

python version 2 int int int

[ ]:
```
d = 5
g = 2
d/g #  2.5  python version 2  2
```

[ ]:
```
d%g #
```

[ ]:
```
5%2
```

2.2 String

2.2.1 String operations

[ ]:
```
print(name + ' has ' + money) #  +  string  (concatenate)
```

[ ]:
```
#print(name + a) #  +
```

[ ]:
```
print(name * 2) #  string  *
```

[ ]:
```
print('I want you.\nI need you.\tI love you.') #  \n  \t  tab
```

2.2.2 String-Number Transformation

`str( )`, `int( )`, `float( )` string, integer float

```
[ ]: print(a)
print(type(a))
print(str(a)) # a = '4'
print(type(str(a)))
```

```
[ ]: a = 4
print(type(a))
c = str(a)
print(type(c))
```

```
[ ]: p = 3.141592
print(p + 5.26) # float + float
print(str(p) + str(5.26)) # str + str
print(int(p))
```

2.2.3 Printing with string and number

1) ,

```
[ ]: print('There are',a,'cats in this room.')
#
print('There are '+str(a)+' cats in this room.')
```

2) f-string (python 3.6)

```
[ ]: print(f"Approximated Pi value is {p}")
print(f"Approximated Pi value is {p:.4f}")
print(f"My name is {name}. I've been here for {a} years")
print(f"My name is {name}. I've been here for {a:.5f} years") # a float␣
 ↪
```

2.2.4 Access character & substrings

string

```
[ ]: print(name)
print(name[0])
print(name[1])
print(name[2])
print(name[3])
```

```
[ ]: mystr = ' Welcome to Botnoi class room'
print(mystr[0:5]) # 0 4
print(mystr[1:8]) # 1 7
print(mystr[-4:]) # 4
print(mystr[-6:-1]) # 6 2
```

```
print(mystr[:5])  #            4
```

[ ]:
```
mystr
```

[ ]:
```
mystr.split() #                    split
```

[ ]:
```
mystr.split('to') #
```

[ ]:
```
mystr.lower() #
```

[ ]:
```
mystr.strip() #       -
```

2.3 Boolean and Expressions

[ ]:
```
x = 5 #Assignment
x == 5 #
```

[ ]:
```
x = 5
y = 5
print(x == y)
print(x != y)
print(x < y)
print(x <=y)
print(x > y)
print(x >= y)
```

[ ]:
```
z = True
h = False
print(z)
print(h)
```