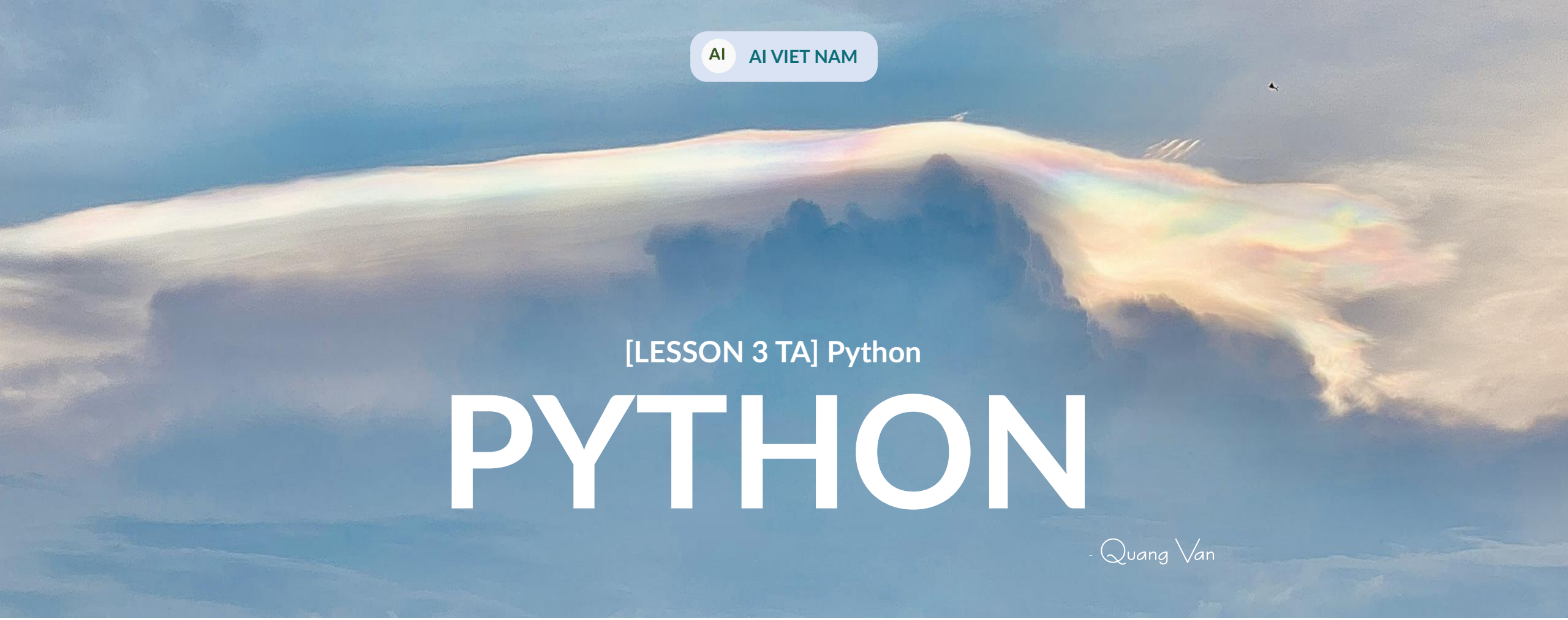

AI VIET NAM
[LESSON 3 TA] Python
PYTHON
Quang Van

OUTLINE

1 ENVIRONMENT

2 NUMBER

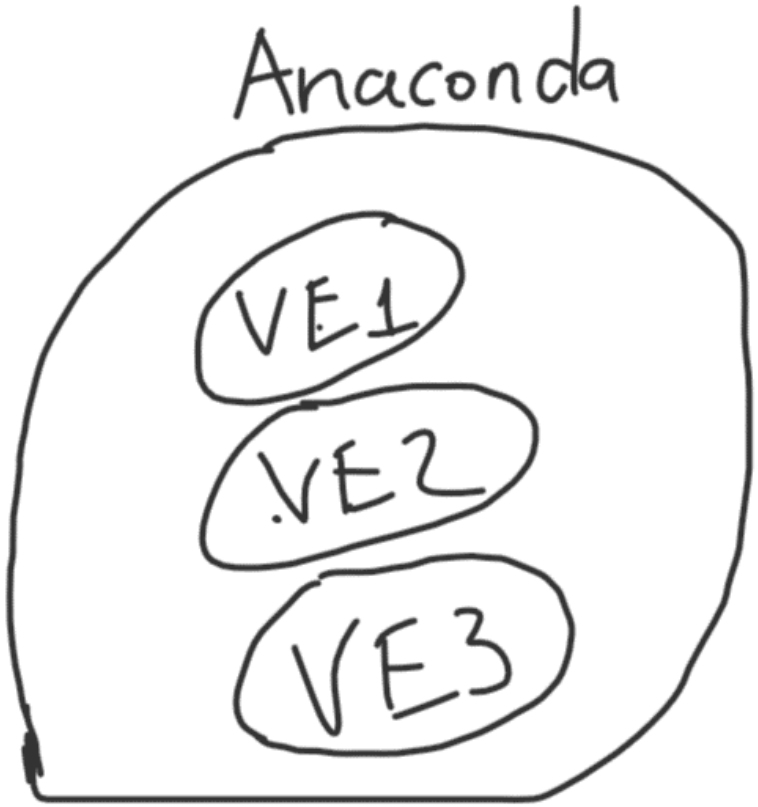
- 2.1 Mathematics
- 2.2 Trick in number

3 FUNCTION

- 2.1 Scope of variables
- 2.2 Lambda function

4 EXERCISE

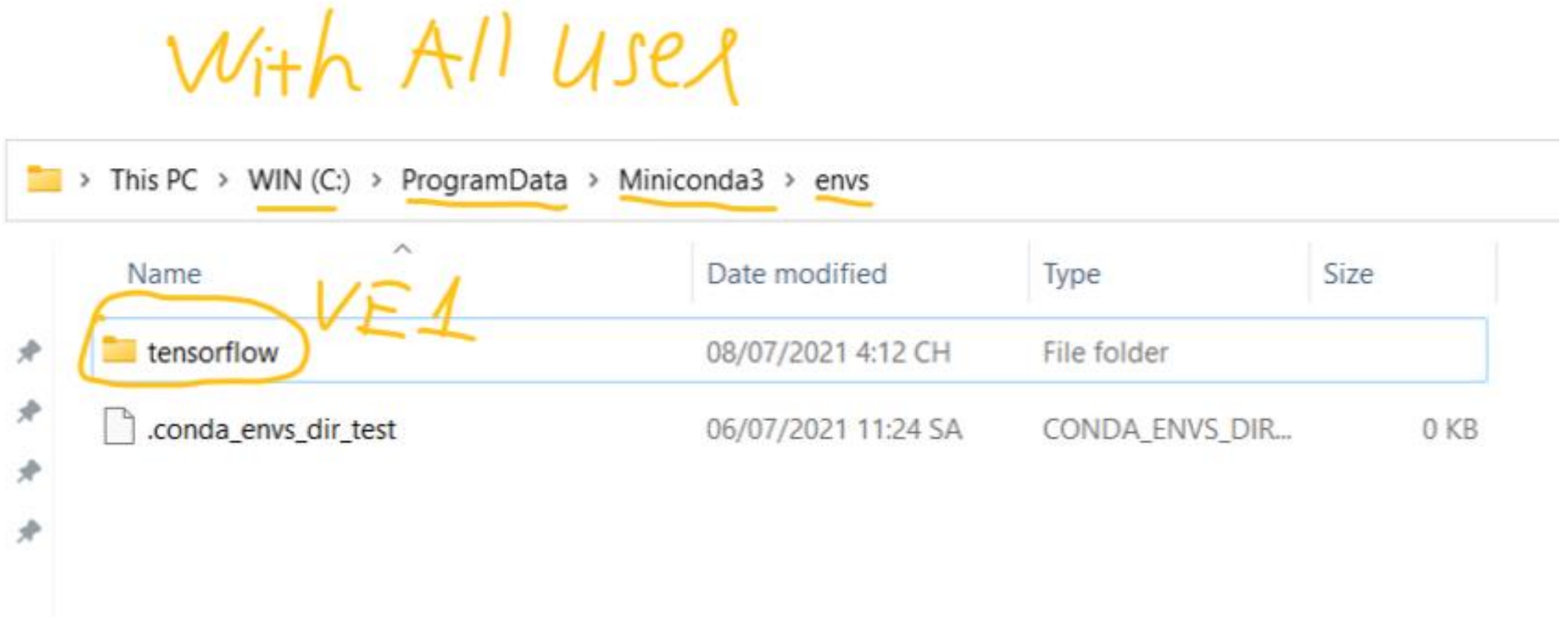
ENVIRONMENT



VE1 : project 1

VE2 : project 2

VE3 : project 3


With All user
This PC
WIN (C:)
ProgramData
Miniconda3
envs
Name
Date modified
Type
Size
VE1
tensorflow
08/07/2021 4:12 CH
File folder
.conda_envs_dir_test
06/07/2021 11:24 SA
CONDA_ENVS_DIR...
0 KB

NUMBER

[1]:
```
import math
```

[2]:
```
dir(math)
```

```
['__doc__',
 '__loader__',
 '__name__',
 '__package__',
 '__spec__',
 'acos',
 'acosh',
 'asin',
 'asinh',
 'atan',
 'atan2',
 'atanh',
 'ceil',
 'comb',
 'copysign']
```

```
['cos',
 'cosh',
 'degrees',
 'dist',
 'e',
 'erf',
 'erfc',
 'exp',
 'expm1',
 'fabs',
 'factorial',
 'floor',
 'fmod',
 'frexp',
 'fsum']
```

```
['gamma',
 'gcd',
 'hypot',
 'inf',
 'isclose',
 'isfinite',
 'isinf',
 'isnan',
 'isqrt',
 'ldexp',
 'lgamma',
 'log',
 'log10',
 'log1p',
 'log2']
```

```
['modf',
 'nan',
 'perm',
 'pi',
 'pow',
 'prod',
 'radians',
 'remainder',
 'sin',
 'sinh',
 'sqrt',
 'tan',
 'tanh',
 'tau',
 'trunc']
```

2.2.1 Swap giá trị

```
a = 2
b = 3

a,b = b,a

print('a =', a)
print('b =', b)
```

```
a = 3
b = 2
```

2.2.2 E notation

```
#positive
print(2e10)

#negative
print(-3e10)

#-inf
print(-3e400)

#inf
print(43e400)
```

```
20000000000.0
-30000000000.0
-inf
inf
```

2.2.3 Write interger

```
print(25000000)
print(25_000_000)
```

```
25000000
25000000
```

2.2.4 Print Style

`.format()`

```
name = "John"
print( "Hello {}".format(name) )
print( "Hello {}, {} ".format(name, 28))
```

```
Hello John
Hello John, 28
```

`f Strings`

```
n = 7.125
print(f"n = {n:.2f}")

n = 1234567890
print(f"n = {n:,}")


n = 1234.56
print(f"n = {n:,.2f}")


ratio = 0.9
print(f"ratio = {ratio:.1%}")

# Display percentage with 2 decimal places
print(f"ratio = {ratio:.2%}")
```

```
n = 7.12
n = 1,234,567,890
n = 1,234.56
ratio = 90.0%
ratio = 90.00%
```

`% operators`

```
name1 = "Quang"
name2 = "Teo"
print( "Hello, %s %s" % (name1, name2) )
```

```
Hello, Quang Teo
```

2.2.5 SAI LẦM ROUND

```
# Ai cũng nghĩ >.5 sẽ làm tròn lên
print(round(2.5))
print(round(3.5))
```

```
2
4
```

```
print(round(4.5))
print(round(5.5))
```

```
4
6
```

```
print(round(6.5))
print(round(7.6))
```

```
6
8
```

NOTE: "Chẵn làm tròn xuống, lẻ làm tròn lên"

```
print(round(3.15559, 3))
print(round(2.71828, 2))
```

```
3.156
2.72
```

FUNCTION

```
g = 5

def inc():
    g = g + 2
```

```
inc()
```

```
---------------------------------------------------------------------------
UnboundLocalError                         Traceback (most recent call last)
<ipython-input-36-bb004e21e764> in <module>
----> 1 inc()

<ipython-input-34-128cc9f90859> in inc()
      2
      3 def inc():
----> 4     g = g + 2

UnboundLocalError: local variable 'g' referenced before assignment
```

```
g = 5

def inc():
    global g
    g = g + 2
```

```
inc()
```

```
print(g)
```

```
7
```

Như hàm bình thường

- **Ko** có **tên**
- **Ko** từ khoá **return**

```
def is_chan(x):
    return x % 2 == 0
```

```
is_chan(2)
```

```
True
```

```
is_chan(3)
```

```
False
```

```
is_chan_v2 = (lambda x : x % 2 == 0)
```

```
is_chan_v2(2)
```

```
True
```

```
is_chan_v2(3)
```

```
False
```

```
(lambda x : x % 2 == 0)(2)
```

```
True
```

```
(lambda x : x % 2 == 0)(3)
```

```
False
```

EXERCISE

BT1

ĐỀ BÀI

TÌM SỐ TRUNG GIAN TRONG 3 SỐ

VÍ DỤ

so_trung_gian(3, 6, 2) = 3

BT2

ĐỀ BÀI

GIẢI PHƯƠNG TRÌNH BẬC 2

$ax^2 + bx + c = 0$

VÍ DỤ

find_solution_equation(1, 0, -2)

>> x1 = 1.4142135623730951
x2 = -1.4142135623730951