Module 01

Intro to Python

Data Science Developer

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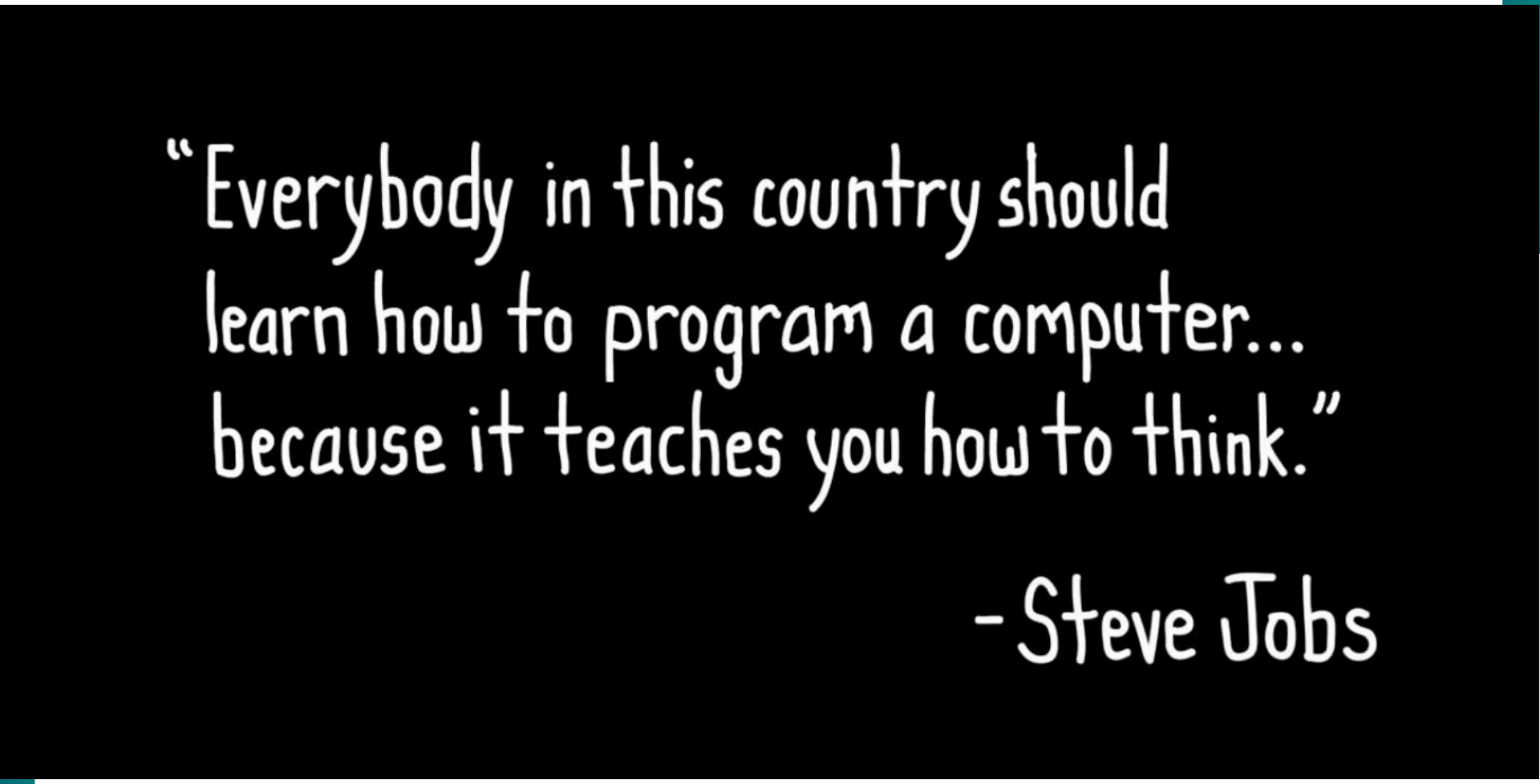
Why Should You Learn to Code?



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Why Should You Learn Python?

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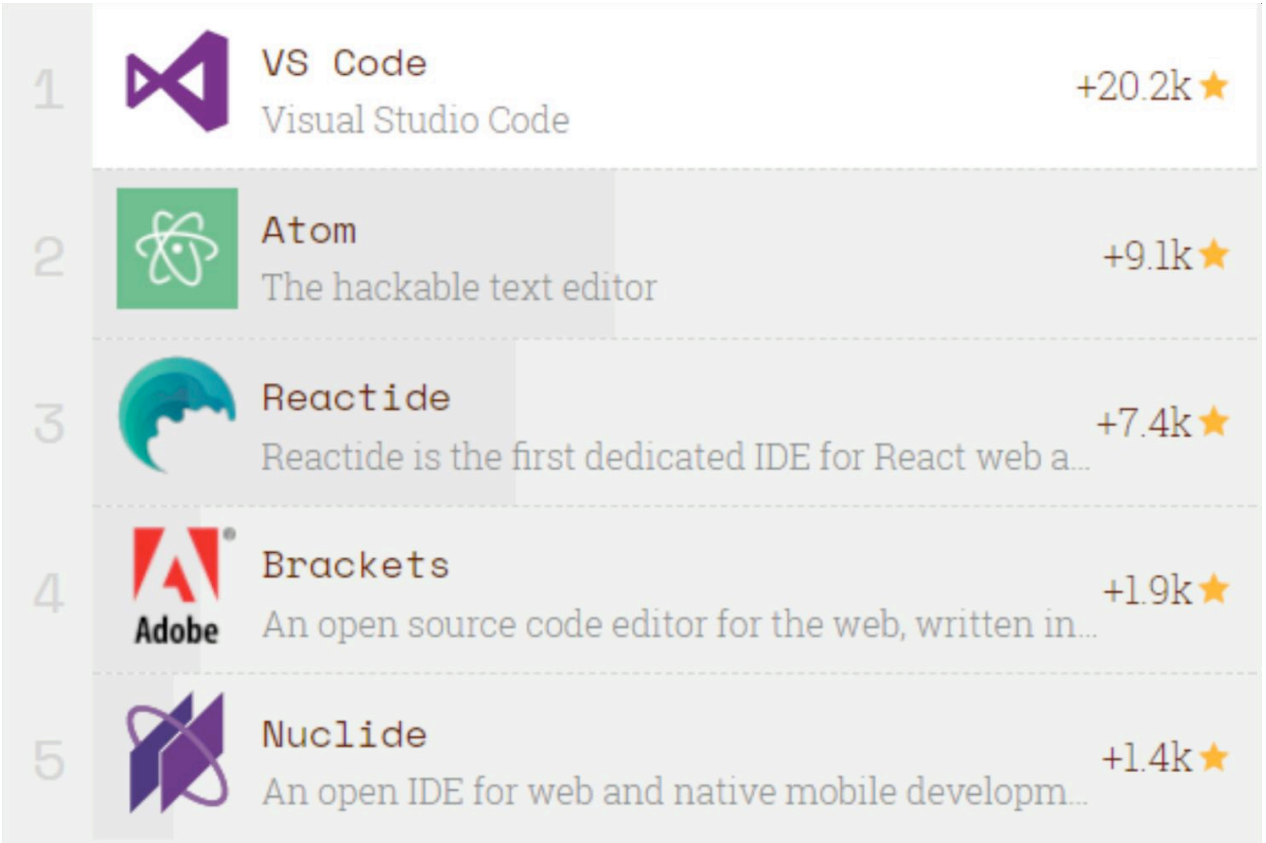
Top Code Editor 2017



https://risingstars.js.org/2017/en/

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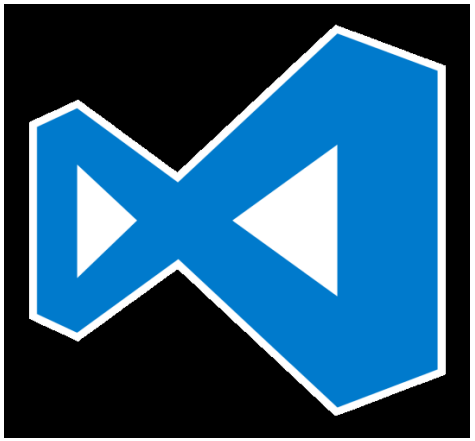
Python

- Python is an interpreted high-level programming language for general-purpose programming.

SetUp



Visual Studio Code

Download & install here:
code.visualstudio.com

Anaconda

Download & install here:
https://www.anaconda.com/download/

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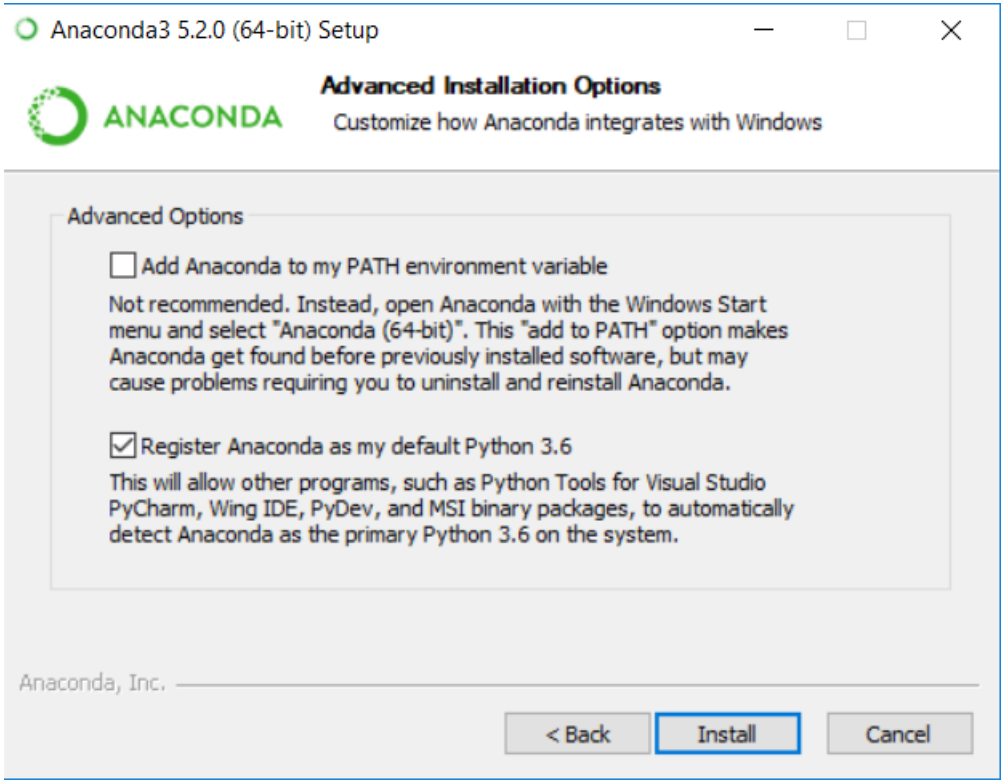
Anaconda SetUp



Ikuti setting defaultnya, jangan langsung add Path env variablenya

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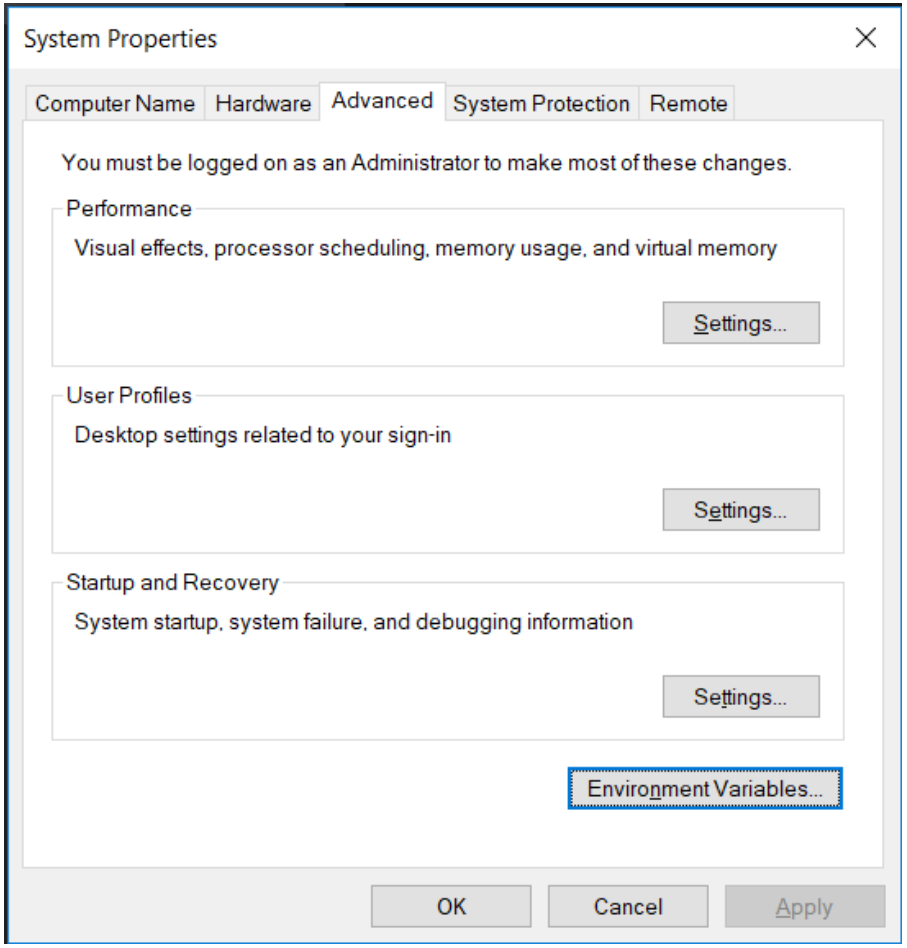
Anaconda SetUp



Search Environment Variables di windows, akan kebuka window seperti itu

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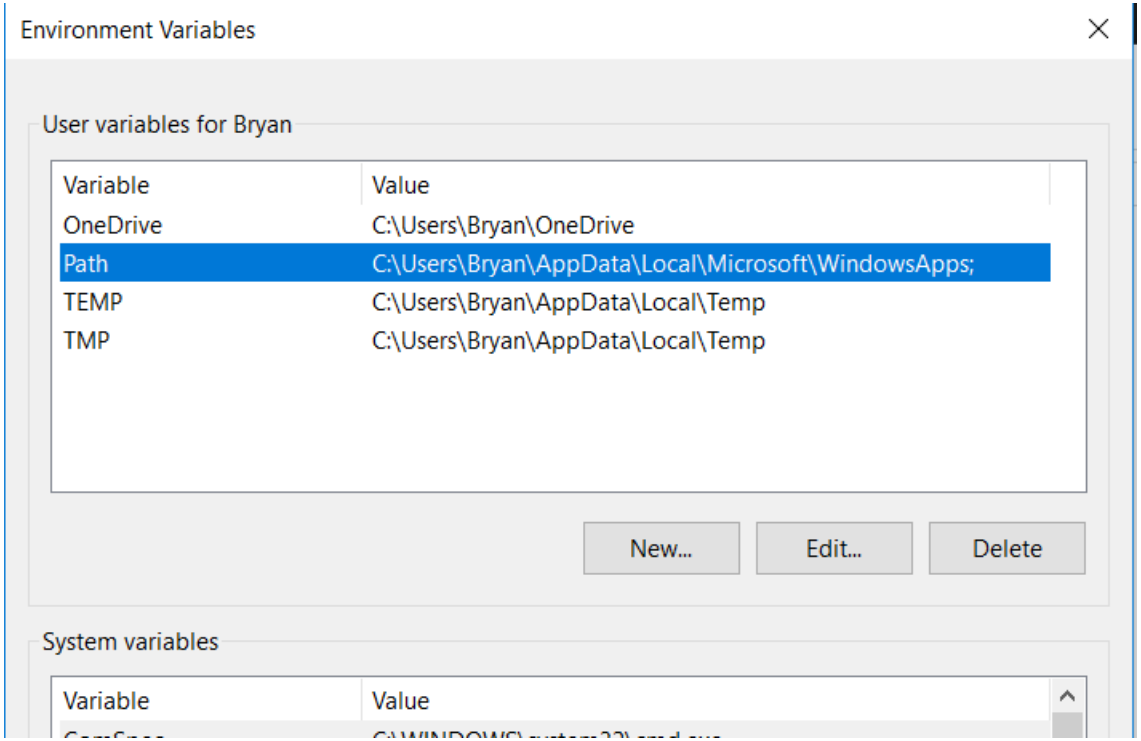
Anaconda SetUp



Pilih Path, terus klik button Edit

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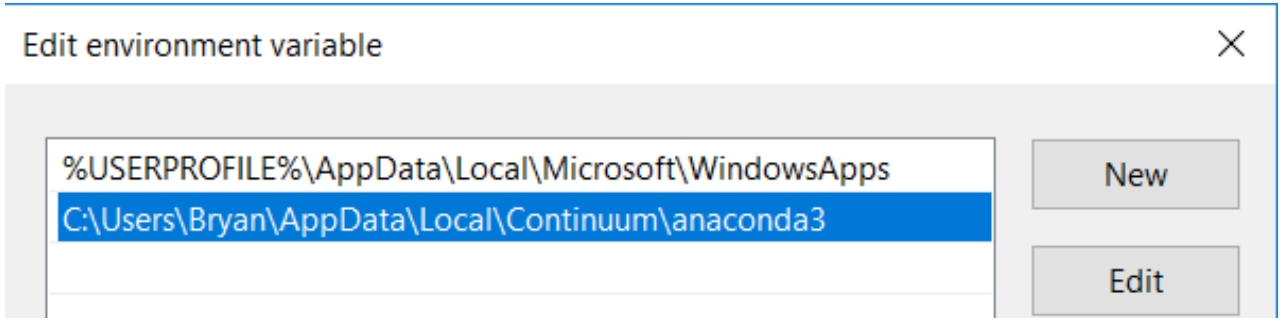
Anaconda SetUp



Kemudian tambahkan path baru ke folder dimana Anaconda kalian diinstall

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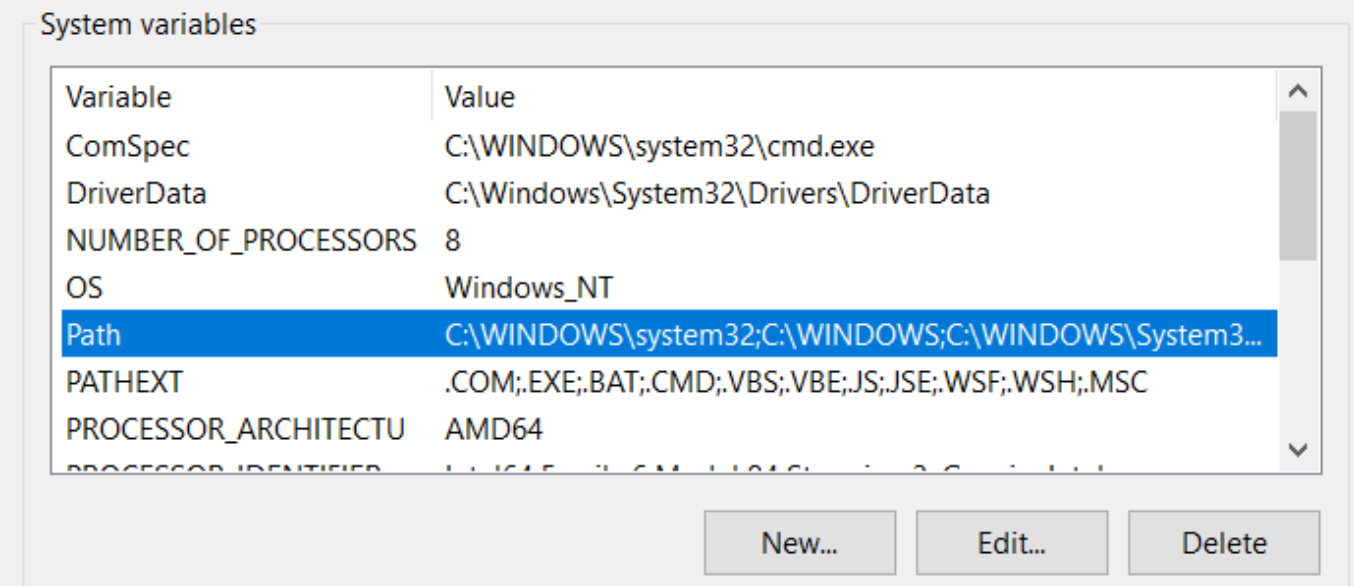
Anaconda SetUp



Sekarang pilih Path dibagian System variables dan klik button Edit

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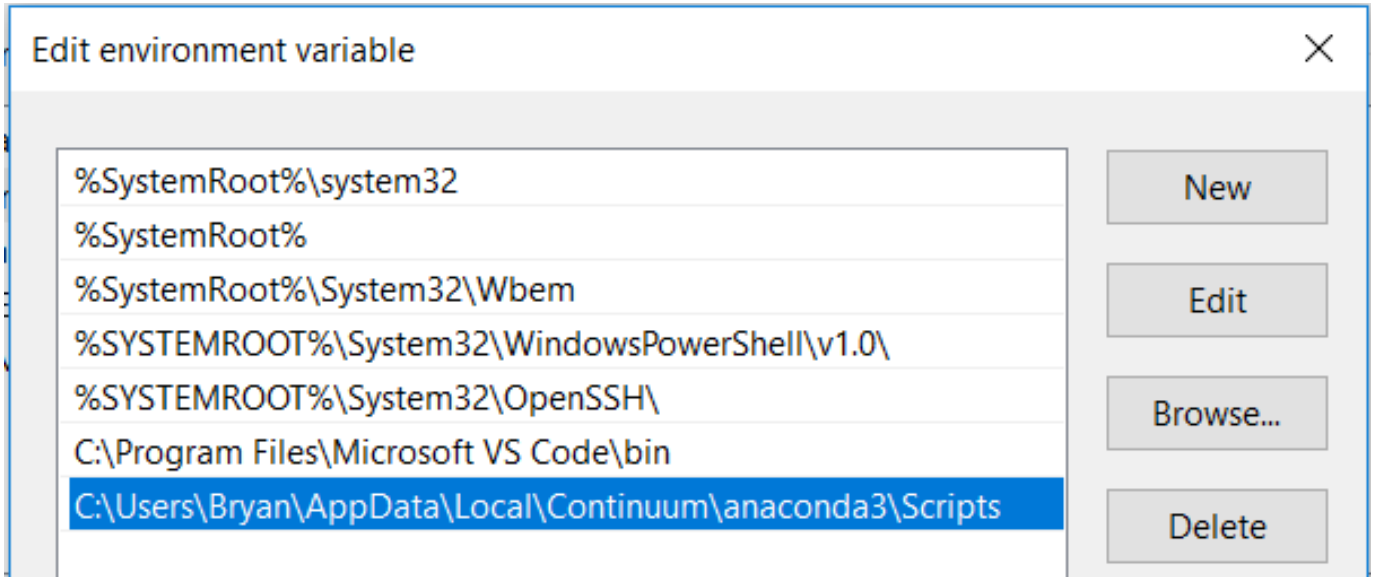
Anaconda SetUp



Kemudian tambahkan path baru ke folder anaconda3/Scripts kalian

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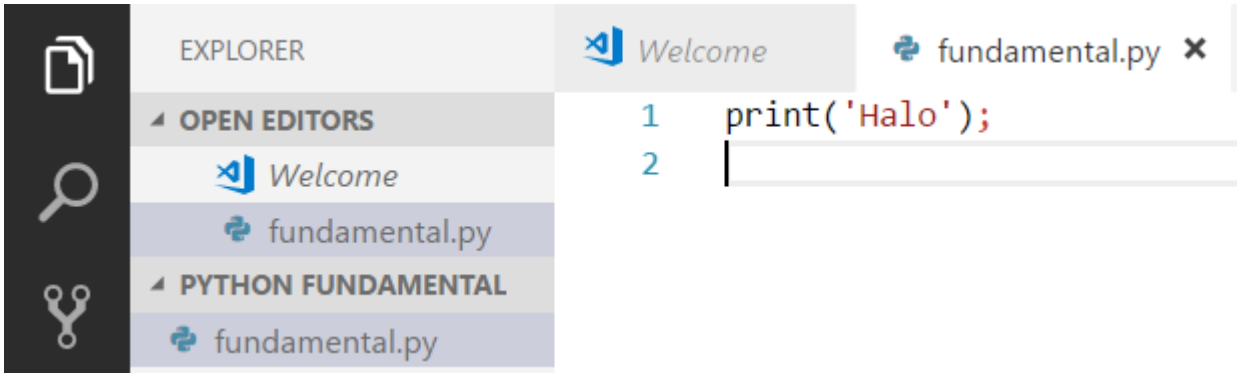
Make your first py file



Ketik **print('Halo');**

Lalu jalankan di terminal VS Code dengan mengetik **python fundamental.py** (nama filenya)

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Comment

```
1    # print('Halo');
2    # print('Halo');
3    # print('Halo');
4
```

Pilih baris2 yang mau dicomment dan tinggal pencet
Ctrl + **/**

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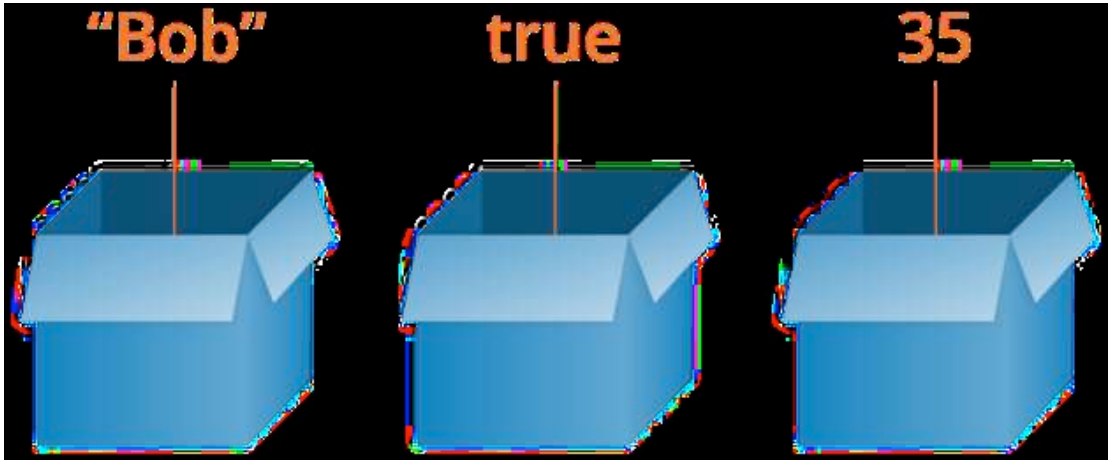
Variabel

Variables are named values and can store any type of value.



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Variabel

```
nama = 'Andi';
print(nama);

usia = 22;
usia = 32;
print(usia);

jomblo = True;
print(jomblo);
```

Data Type

```
nama = 'Andi';
usia = 22;
jomblo = True;

print(type(nama));
print(type(usia));
print(type(jomblo));
```

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Input

```
nama = input("Whats your name? : ");
print(nama);
```

```
PS D:\Purwadhika\Purwadhika\Python Fundamental> python fundamental.py
Whats your name? : Baron
Baron
```

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Solved It!

```
Nama kamu? : Baron
Umur kamu? : 20
Kelamin kamu? : Pria
Pekerjaan kamu? : Guru
Nama : Baron
Umur : 20
Kelamin : Pria
Pekerjaan : Guru
```

Buatlah apps minta 4 input tersebut dan print inputnya dengan format seperti itu

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Solved!

```
nama = input("Nama kamu? : ");
umur = input("Umur kamu? : ");
kelamin = input("Kelamin kamu? : ");
pekerjaan = input("Pekerjaan kamu? : ");

print("Nama : " + nama);
print("Umur : " + umur);
print("Kelamin : " + kelamin);
print("Pekerjaan : " + pekerjaan);
```

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Numbers & Arithmetic Operators

```
usiaAndi = 40;
usiaBudi = 20;

print(usiaAndi * usiaBudi);
print(usiaAndi / usiaBudi);
print(usiaAndi + usiaBudi);
print(usiaAndi - usiaBudi);
print(usiaAndi % usiaBudi);
print(usiaBudi ** 2);
```

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Numbers & Arithmetic Operators

```
usiaAndi = 40;
usiaBudi = 20;

usiaAndi += 3;
# usiaAndi = usiaAndi + 3;

usiaBudi *= 4;
# usiaBudi = usiaBudi * 3;

print(usiaAndi);
print(usiaBudi);
```

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Math Module

```
import math

print(math.pi);
print(math.fabs(-4.7));
print(math.pow(8, 2));
print(math.sqrt(64));
```

Round, Ceil, & Floor

```
import math

print(round(4.7));
print(round(4.4));
print(math.floor(4.7));
print(math.ceil(4.4));
```

Strings

```
x = 'Halo Dunia';

print(len(x));
print(x.index('Dunia'));
print(x.split(' '));
print(x.lower());
print(x.upper());
print(x.capitalize());
```

Strings

```
singleQuotes = 'single quotes';
doubleQuotes = "double quotes";
combineQuotes = "wrap lot's of other quotes"

print(singleQuotes);
print(doubleQuotes);
print(combineQuotes);
```

Strings Indexing

```
text = "I'm Baron, nice to meet you";

print(text[1]);
print(text[2:]);
print(text[:4]);
print(text[2:5]);
print(text[:]);
```

Convert Strings to Numbers

```
angka1 = input("Masukkan Angka 1 : ");
angka2 = input("Masukkan Angka 2 : ");

print(angka1 + angka2);
print(int(angka1) + int(angka2));

angka1 = float(angka1);
angka2 = float(angka2);

print(angka1 + angka2);
```

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Adding Strings & Numbers

```
usia = 22;
nama = 'Andi';

print(usia + usia);
print(nama + ' ' + nama);
print(nama + ' ' + str(usia));
```

Solve It! #1

$$if\ x = 4, y = 3\ \&\ z = 2$$

$$w = \left(\frac{x + y \times z}{x \times y}\right)^{z} = ?$$

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Solve It! #2

```
Silahkan masukkan angka berapapun : 4
Kuadrat dari 4 = 16
```

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Solve It! #3

485 hari.

Nyatakan dalam tahun, bulan, minggu dan hari.

*1 bulan = 30 hari, 1 tahun = 360 hari.

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Solve It! #4

Saat ini, jumlah usia Andi & Budi = 49 th, dengan rasio Usia Andi & Budi = 0.4.

Berapa usia Andi & Budi 2 tahun lagi?

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Solve It! #5

Buatlah algoritma untuk menghitung karakter tertentu dalam String!

Misal: “Halo Dunia” memiliki huruf ‘a’ sebanyak 2 buah.

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Solve It! #6

Jarak mobil A & B = 120 km.
A berjalan 60km/h dari timur.
B berjalan 40km/h dari barat.
A & B start pukul 9 WIB.

Jam brp A & B bertabrakan?

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