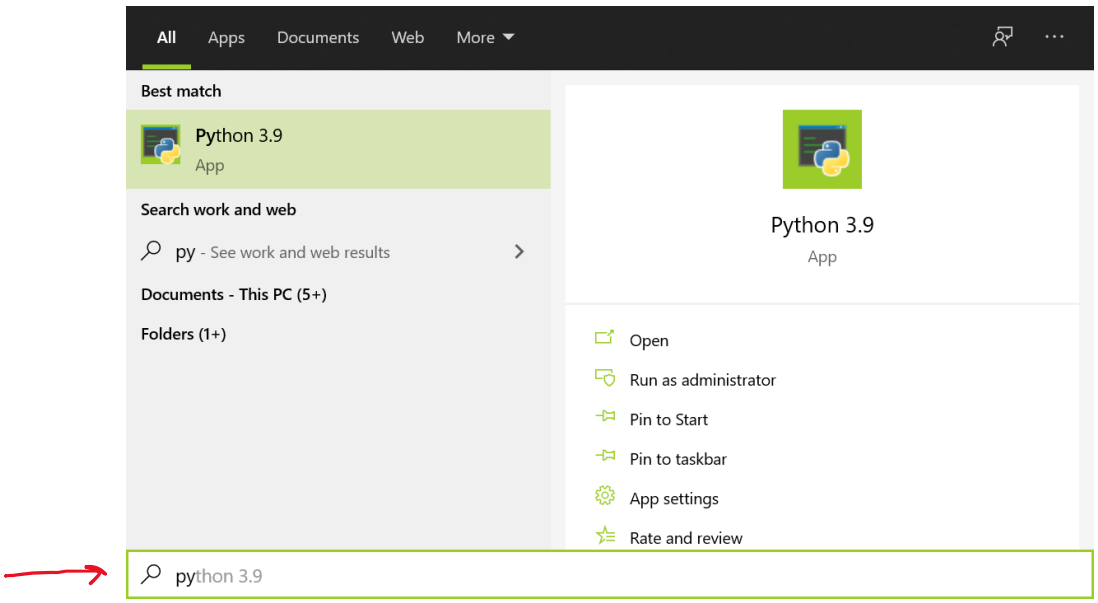
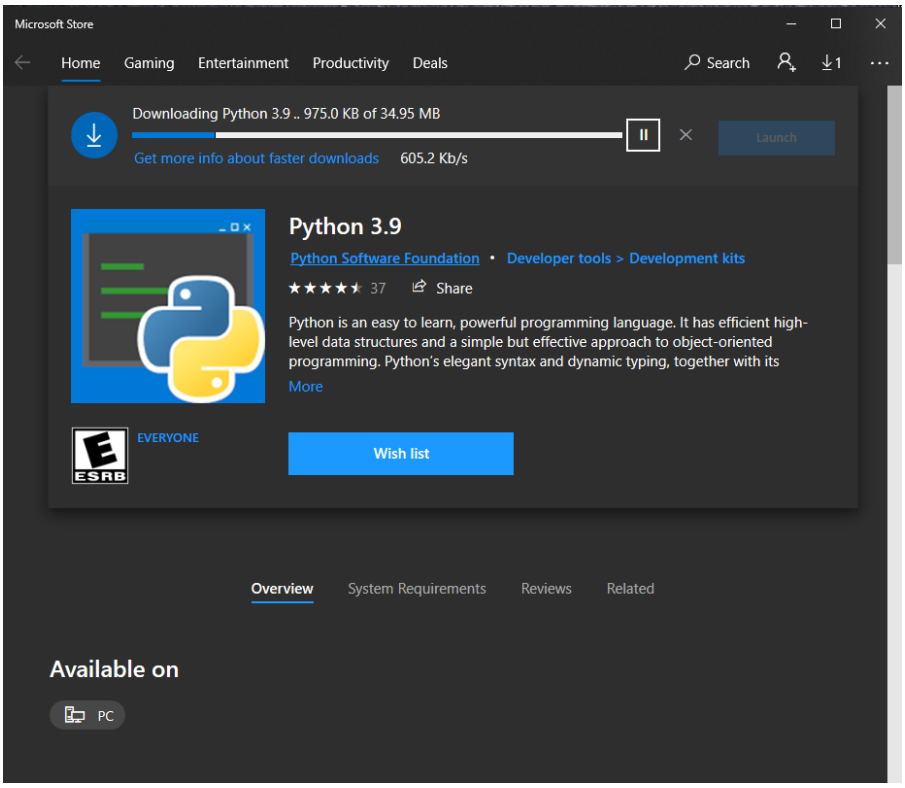
Install Python 3.9 for Windows 10.

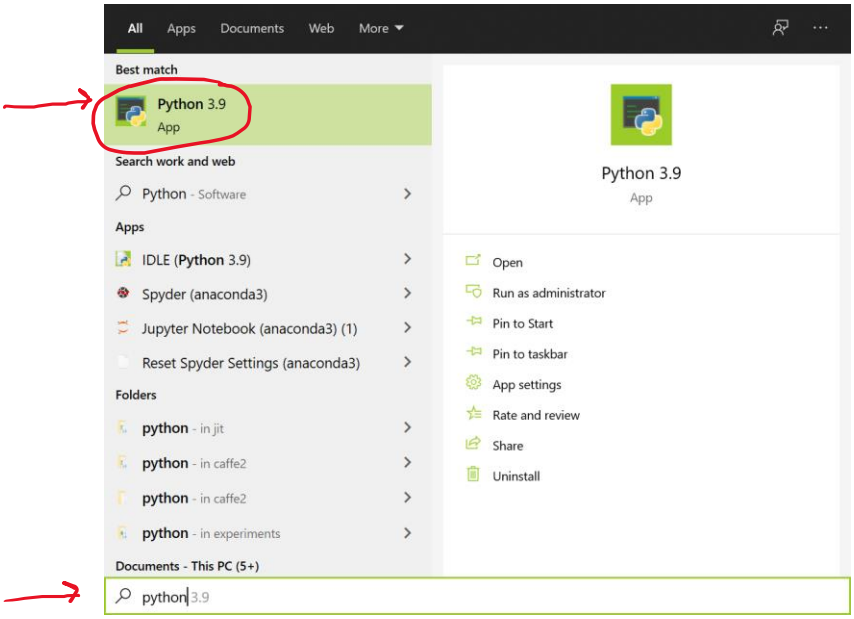


On Windows -> Start-> enter command “python” then press Enter.

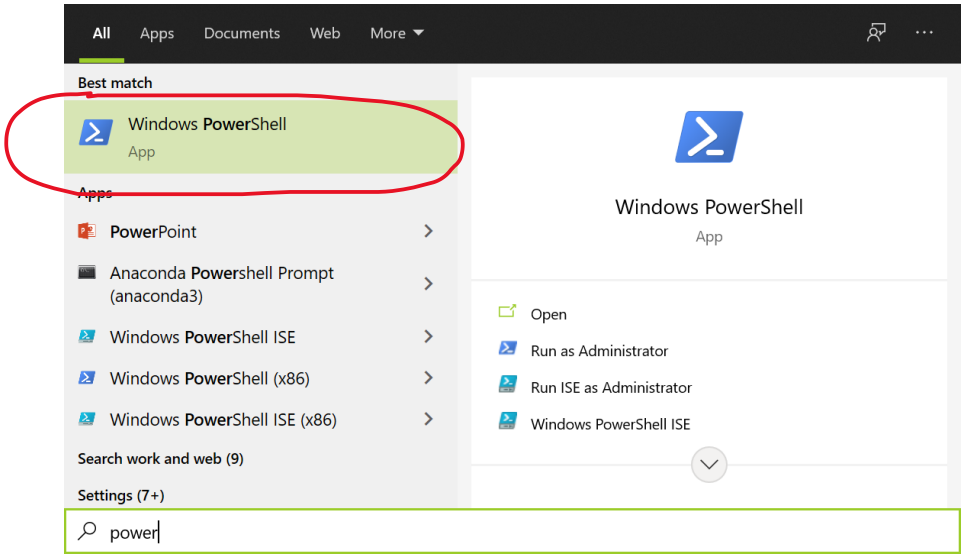
If you are first time for Python in your system, windows will show “Python in Microsoft Store”.



To check Python is ready in your system: Windows Start -> python



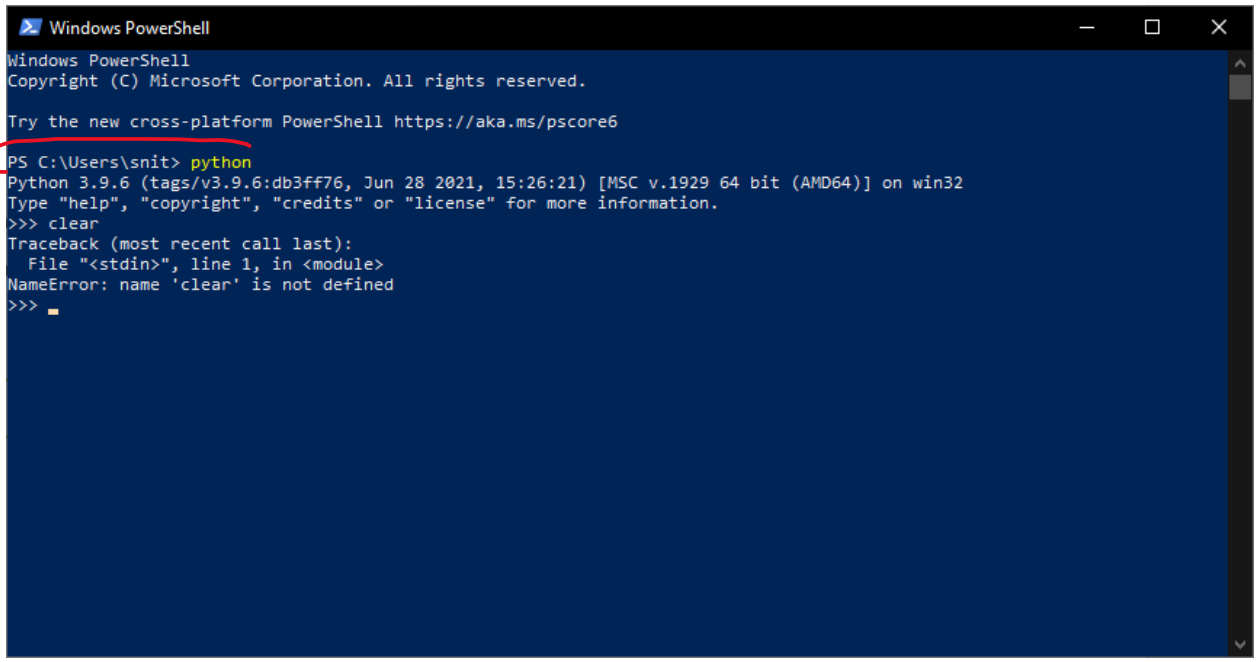
To play with python interpreter: Windows Start -> powershell



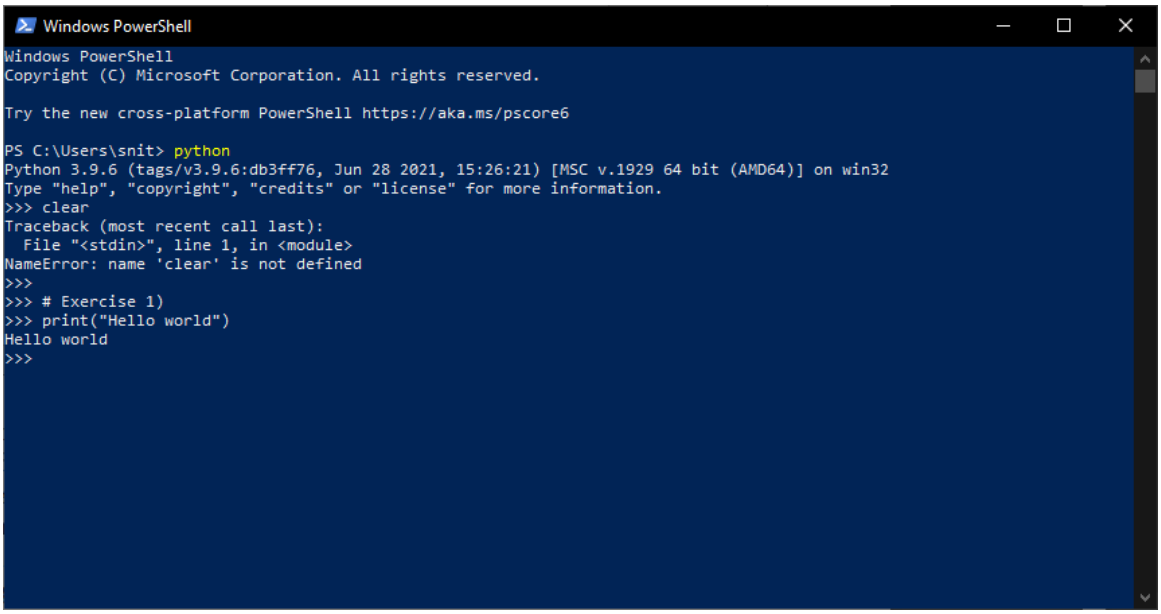
At powershell, you can control Windows with command line, such as call python interpreter.

Shell show where you are in file system tree such as in this case home directory of snit on drive C: path \User\snit. Here, this folder or directory you can work on files.

Python interpreter show in the examples, so you can try to instruct computer do some job or playing game in Python statements.



After this point, you can work on Laboratory 1, example 1

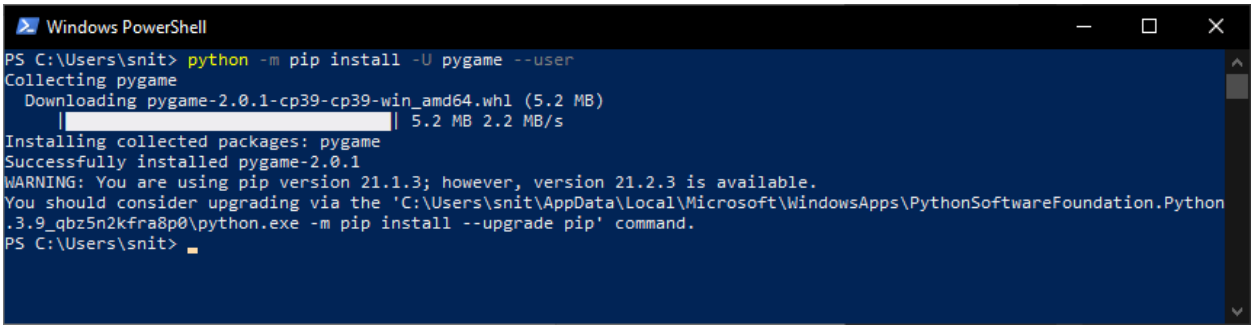


To exit from python interpreter : exit().

Install new module in Python

To install new library or module in Python, such game, pip is package management in Python.

You can add or remove library easier than C++.



You can test above installation, in powershell by

```
python -m pygame.examples.aliens
```

Python Script : How to start writing your own game. (prepare for Example #15)

In C++, we need to tell compiler where is end of line, not in Python.

In C++, we need to tell compiler where is boundary of block of code such loop or function with {}, indentation or tab/space at same column is detected as block in Python as how in follow example how to indentation used in loop and if statements.

To review Python as Script, Python Structure.

1. Open PowerShell (or Windows Command Prompt) and create an empty folder called "bounce". Navigate to this folder and create a file named "bounce.py". Open the folder in VS Code:

   ```
   mkdir bounce
   cd bounce
   new-item bounce.py
   code .
   ```

2. Using VS Code or any IDE editor, enter the following Python code (or copy and paste it):

```
import sys, pygame

pygame.init()

size = width, height = 640, 480
dx = 1
dy = 1
x= 163
y = 120
black = (0,0,0)
white = (255,255,255)

screen = pygame.display.set_mode(size)

while 1:

    for event in pygame.event.get():
        if event.type == pygame.QUIT: sys.exit()

    x += dx
    y += dy

    if x < 0 or x > width:
        dx = -dx

    if y < 0 or y > height:
        dy = -dy

    screen.fill(black)

    pygame.draw.circle(screen, white, (x,y), 8)

    pygame.display.flip()
```

3. Save it as: bounce.py.
4. From the PowerShell terminal, run it by entering: python bounce.py