

# Current Assignments

- Homework 1 is due on Wednesday
- Homework 2 is due on Sunday, Feb 2<sup>nd</sup>
- Quiz 1 is this week in your lab sections

# Starting Python 3

Prof Matthew Fricke

# Installing Python 3

Go to <http://python.org>

The following instructions were good on Jan 26th, 2020.

The web changes all the time so your mileage may vary.

# ZyBooks Python Interpreter

ZyBooks allows you to type in Python programs and it gives you feedback.

CHALLENGE  
ACTIVITY

1.3.1: Output simple text.

Write the simplest statement that prints the following:

**3 2 1 Go!**

Note: Whitespace (blank spaces / blank lines) matters; make sure your whitespace *exactly* matches the expected output.

```
1
2 ''' ZyBooks includes a Python interpreter '''
3
4 print("ZyBooks runs Python on Amazon Web Services (computers owned by Amazon.com)")
5
```

Run

✗ Testing for correct output

Output differs. See highlights below. [Special character legend](#)

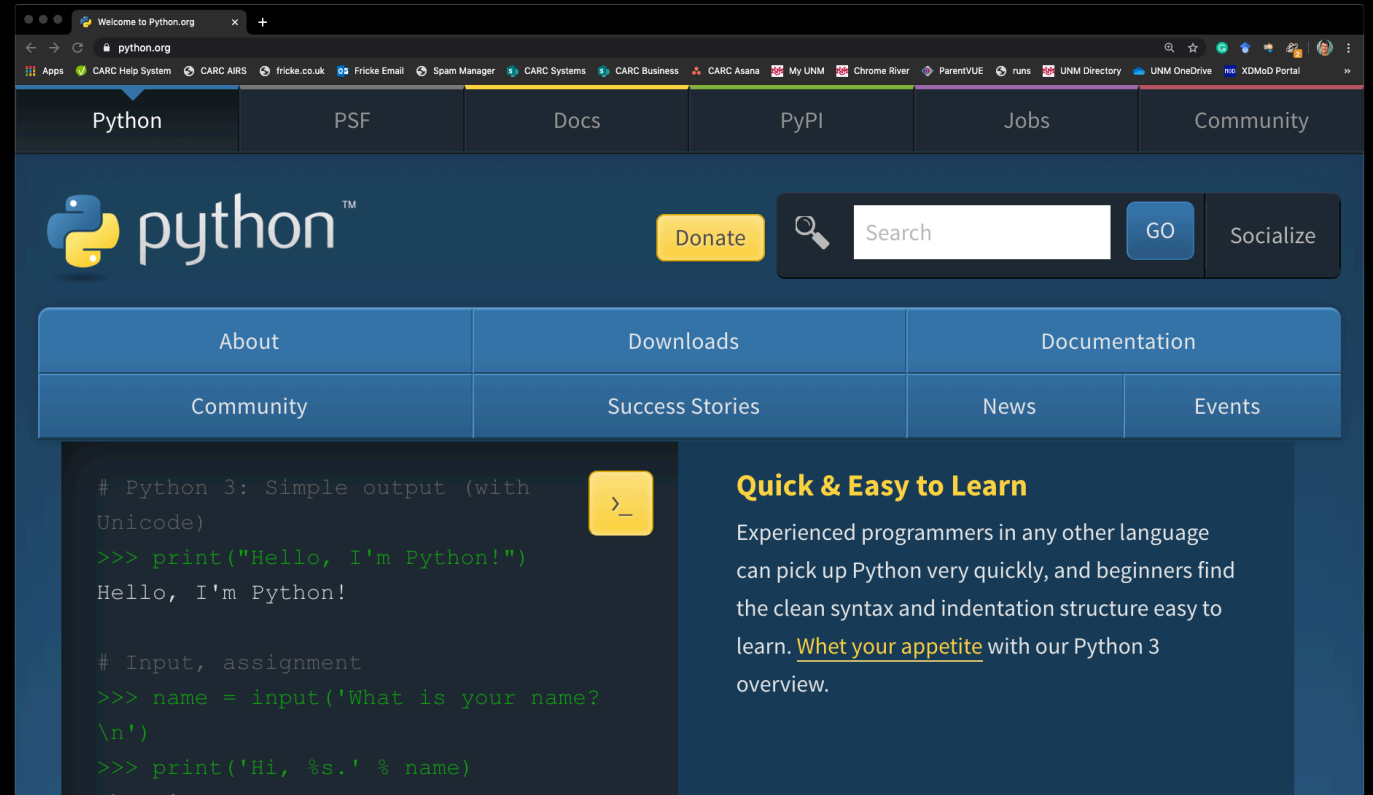
Your output `ZyBooks runs Python on Amazon Web Services (computers owned by Amazon.co`

Expected output `3 2 1 Go!`

# Installing Python 3

Go to python.org

Select downloads



The screenshot shows the Python.org website. The top navigation bar includes links for Python, PSF, Docs, PyPI, Jobs, and Community. Below this is the Python logo, a search bar, and a 'Donate' button. A secondary navigation bar contains links for About, Downloads, Documentation, Community, Success Stories, News, and Events. The main content area features a code snippet demonstrating Python 3 output and input, followed by a 'Quick & Easy to Learn' section.

```
# Python 3: Simple output (with Unicode)
>>> print("Hello, I'm Python!")
Hello, I'm Python!

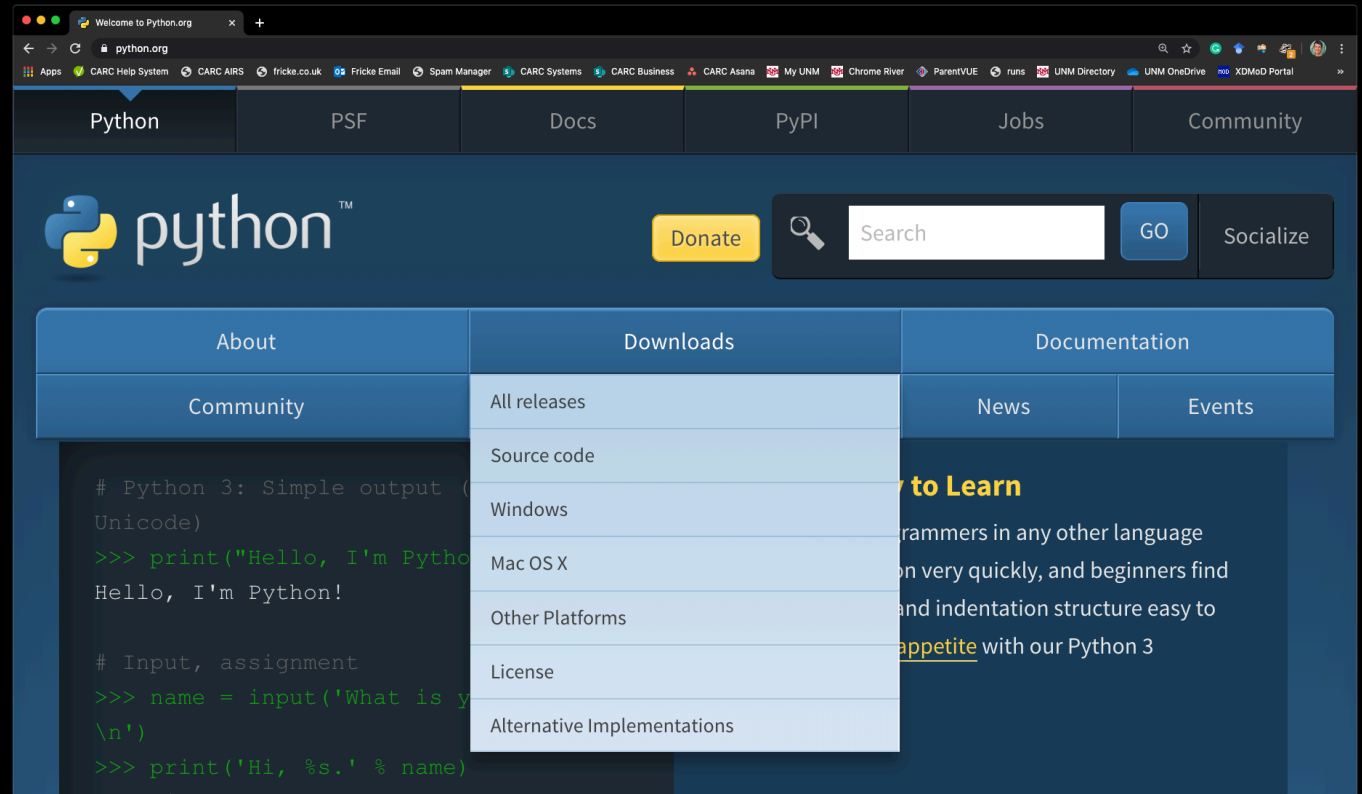
# Input, assignment
>>> name = input('What is your name?
\n')
>>> print('Hi, %s.' % name)
```

**Quick & Easy to Learn**  
Experienced programmers in any other language can pick up Python very quickly, and beginners find the clean syntax and indentation structure easy to learn. [Whet your appetite](#) with our Python 3 overview.

# Installing Python 3

Go to python.org

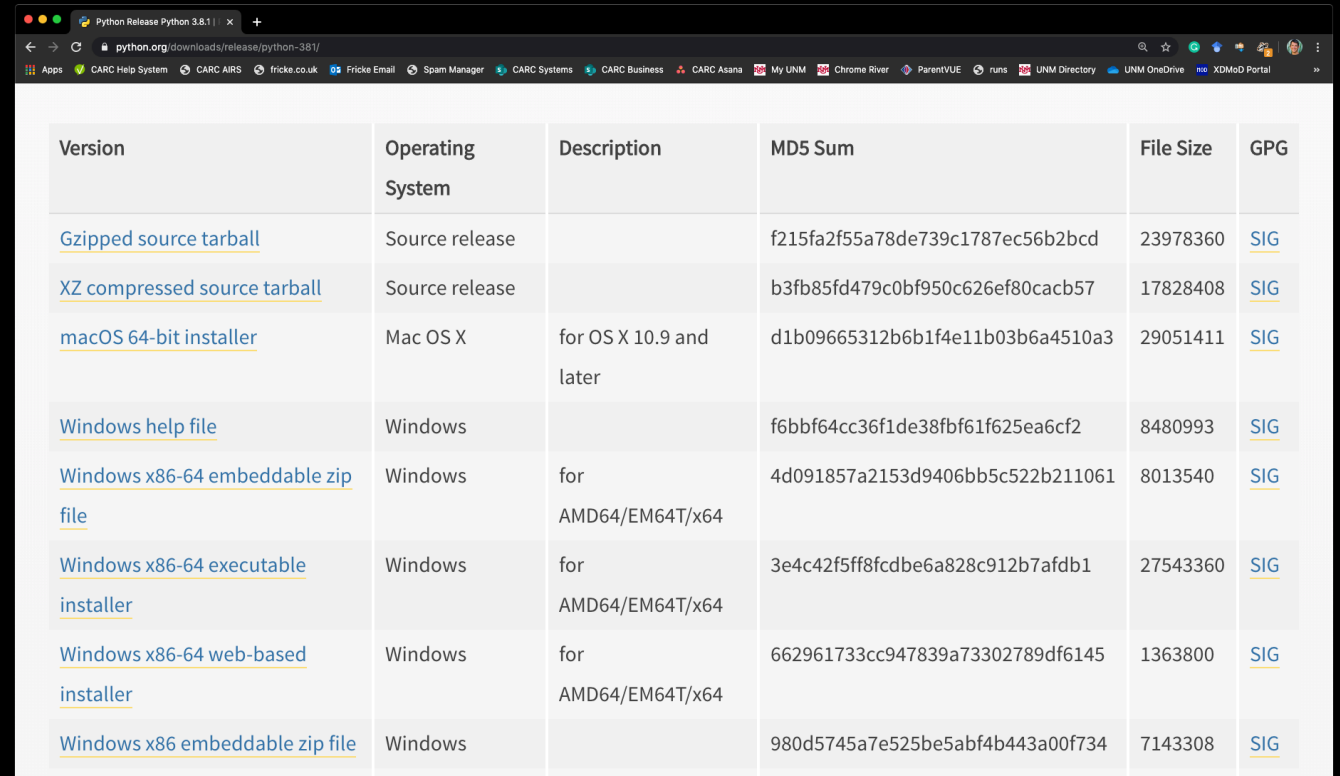
Select downloads



# Installing Python 3

Go to python.org

Select downloads

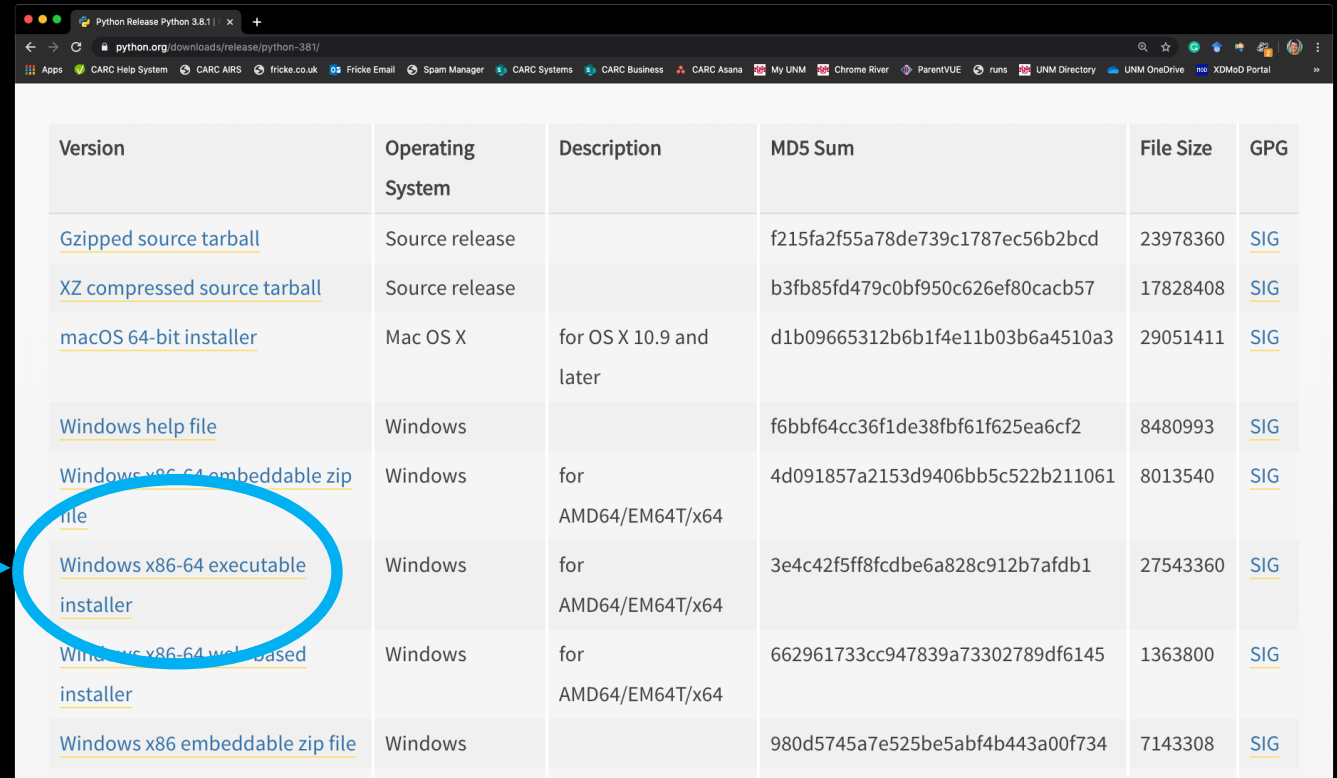


Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		f215fa2f55a78de739c1787ec56b2bcd	23978360	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		b3fb85fd479c0bf950c626ef80cacb57	17828408	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	d1b09665312b6b1f4e11b03b6a4510a3	29051411	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		f6bbf64cc36f1de38fbf61f625ea6cf2	8480993	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	4d091857a2153d9406bb5c522b211061	8013540	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	3e4c42f5ff8fdb6e6a828c912b7afdb1	27543360	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	662961733cc947839a73302789df6145	1363800	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		980d5745a7e525be5abf4b443a00f734	7143308	<a href="#">SIG</a>

# Installing Python 3: Windows

1. Go to python.org
2. Select downloads
3. Scroll down...

Windows Installer 



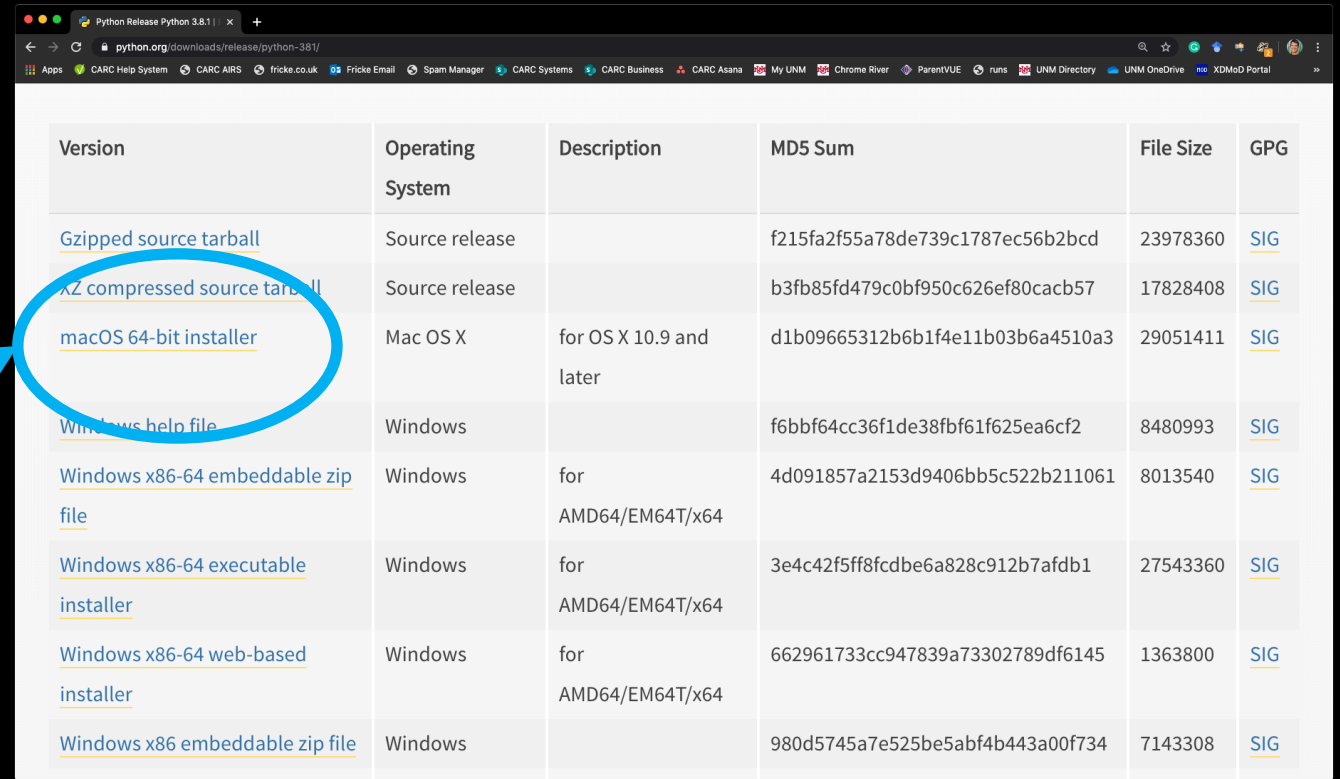
Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		f215fa2f55a78de739c1787ec56b2bcd	23978360	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		b3fb85fd479c0bf950c626ef80cacb57	17828408	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	d1b09665312b6b1f4e11b03b6a4510a3	29051411	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		f6bbf64cc36f1de38fbf61f625ea6cf2	8480993	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	4d091857a2153d9406bb5c522b211061	8013540	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	3e4c42f5ff8fdb6e6a828c912b7afdb1	27543360	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	662961733cc947839a73302789df6145	1363800	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		980d5745a7e525be5abf4b443a00f734	7143308	<a href="#">SIG</a>



# Installing Python 3: OS X

1. Go to python.org
2. Select downloads
3. Scroll down...

Mac OS X Installer\*



Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		f215fa2f55a78de739c1787ec56b2bcd	23978360	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		b3fb85fd479c0bf950c626ef80cacb57	17828408	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	d1b09665312b6b1f4e11b03b6a4510a3	29051411	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		f6bbf64cc36f1de38fbf61f625ea6cf2	8480993	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	4d091857a2153d9406bb5c522b211061	8013540	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	3e4c42f5ff8fcdbe6a828c912b7afdb1	27543360	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	662961733cc947839a73302789df6145	1363800	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		980d5745a7e525be5abf4b443a00f734	7143308	<a href="#">SIG</a>

\*Current versions of OS X have Python 2 preinstalled. Python will be removed in the next release.

# Installing Python 3: iOS

## It's \$10 😞

1. Go to [the AppStore](#)
2. Search for Pythonista 3
3. Install (\$10)

The screenshot shows the App Store page for Pythonista 3. At the top, navigation links for Mac, iPad, iPhone, Watch, TV, Music, and Support are visible. The app title is "Pythonista 3" with a "4+" age rating. Below the title, it says "Python IDE" and "omz:software". The app is ranked "#47 in Productivity" and has "4.6, 793 Ratings". The price is listed as "\$9.99".

**App Store Preview**

This app is available only on the App Store for iPhone and iPad.

**Pythonista 3** 4+  
Python IDE  
omz:software  
#47 in Productivity  
★★★★★ 4.6, 793 Ratings  
\$9.99

**Screenshots** iPhone iPad

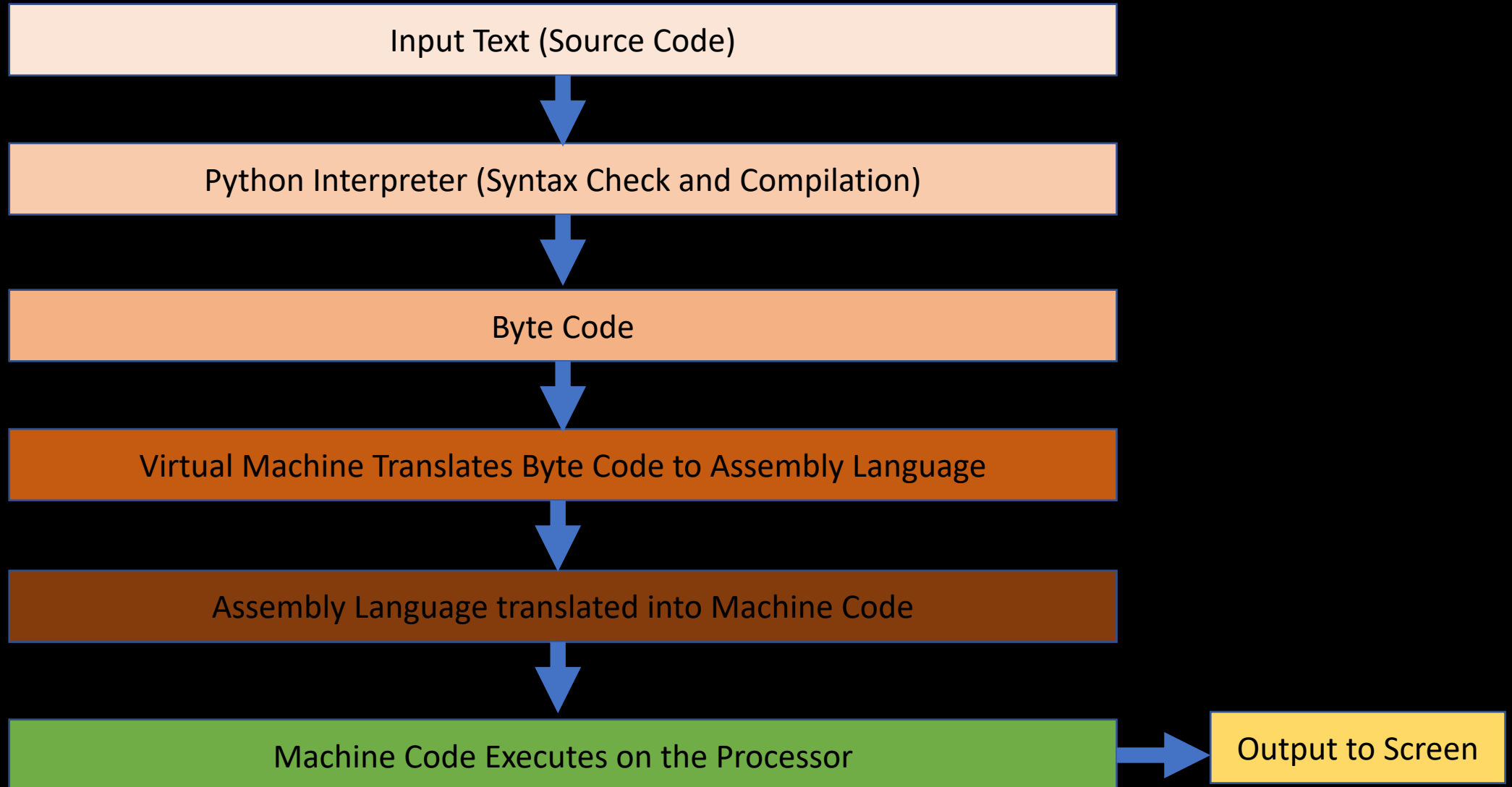
- Python Interpreter in Your Pocket**: Shows a code editor interface with a file list on the left containing files like "Animated GIF.py", "Birthdays.py", "Image Effects.py", and "Image of the Day.py".
- Powerful Editor with Code Completion**: Shows a code editor with Python code for a "Motion Plot.py" file, featuring a keyboard and code completion suggestions.
- UI Editor for Quick Prototyping**: Shows a "Calculator.py" file with a visual UI editor overlaying a standard calculator interface.
- Build 2D Games and Animations**: Shows a game screen with a score of 320 and a colorful, abstract 2D game environment.

# Installing Python 3: Android

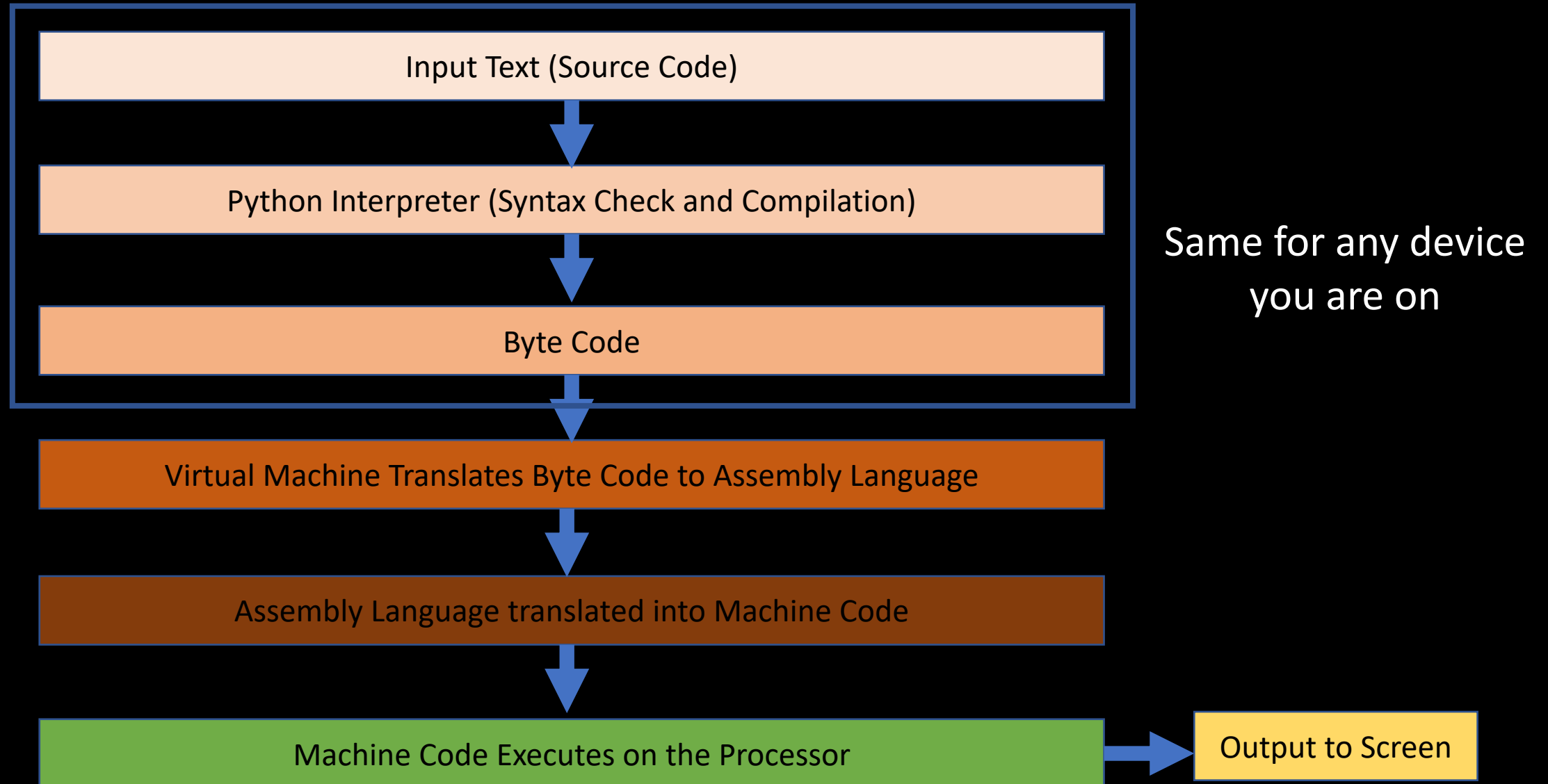
1. Go to Google Play
2. Search for QPython3
3. Install

The screenshot shows the Google Play Store page for the app "QPython3 - Python3 for Android". The app is developed by QPythonLab and is categorized as Education. It has a rating of 4.5 stars from 6,015 reviews and is available for everyone. The app is free but contains ads. A green "Install" button is visible. Below the app title, there are three preview images showing the app's interface on an Android phone: a main menu with icons for Console, Editor, Scripts, and Community; a code editor with syntax highlighting; and a Python console with a keyboard overlay. The text below the images states: "QPython3 is a port of Python3 for android, it can run Python3 applications on your android devices like mobile or tablet, It also contains the Package Index where you can find many funny and usable Python applications easily. (It is the only Python interpreter which works under android 4.0 in google play)". A "READ MORE" link is at the bottom. On the right side, there is a "Similar" section with a "See more" button and four recommended apps: "Pydroid 3 - IDE for IIEC", "Python Xplorer", "Pydroid - Educational", and "Learn Python Offline".

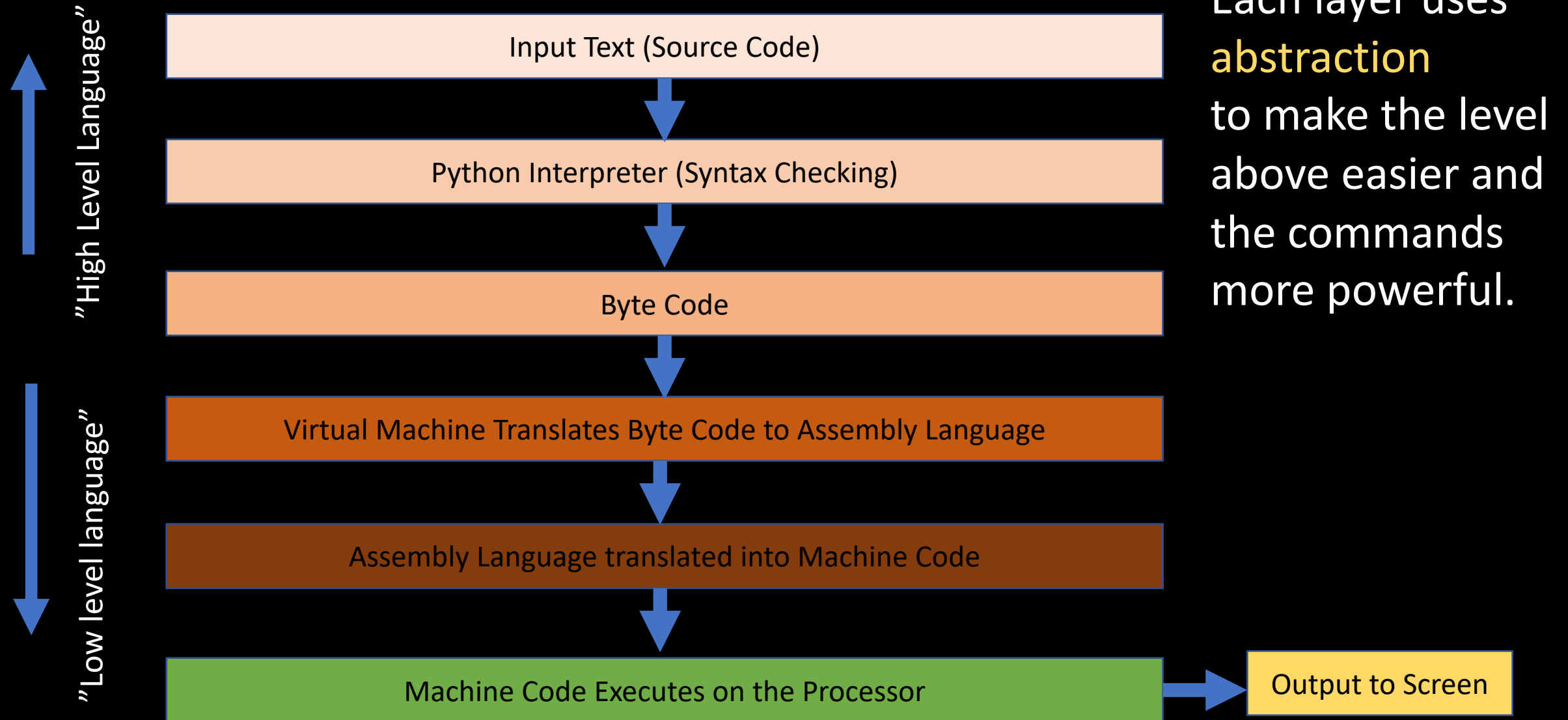
# What Python Does...



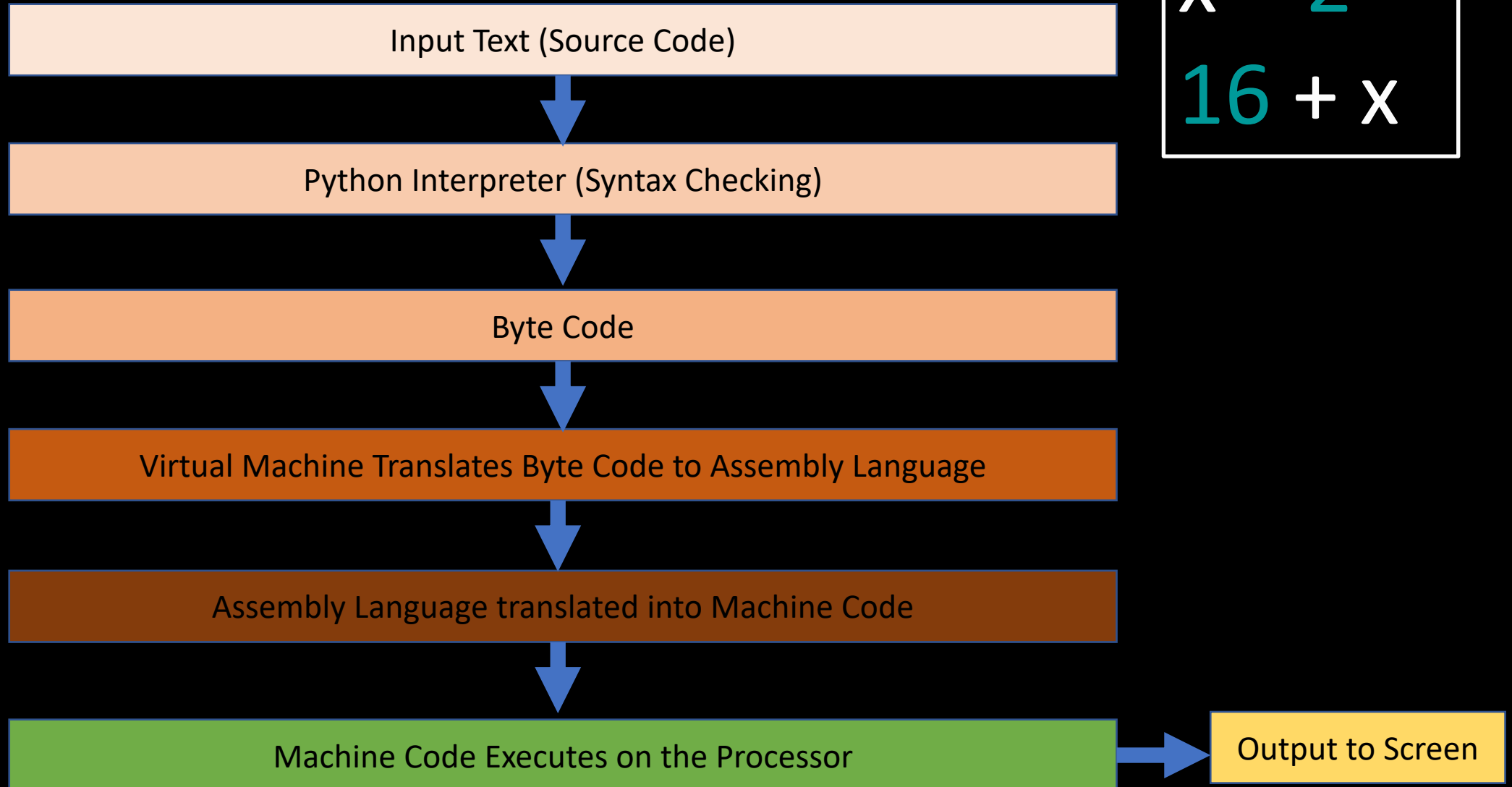
# What Python Does...



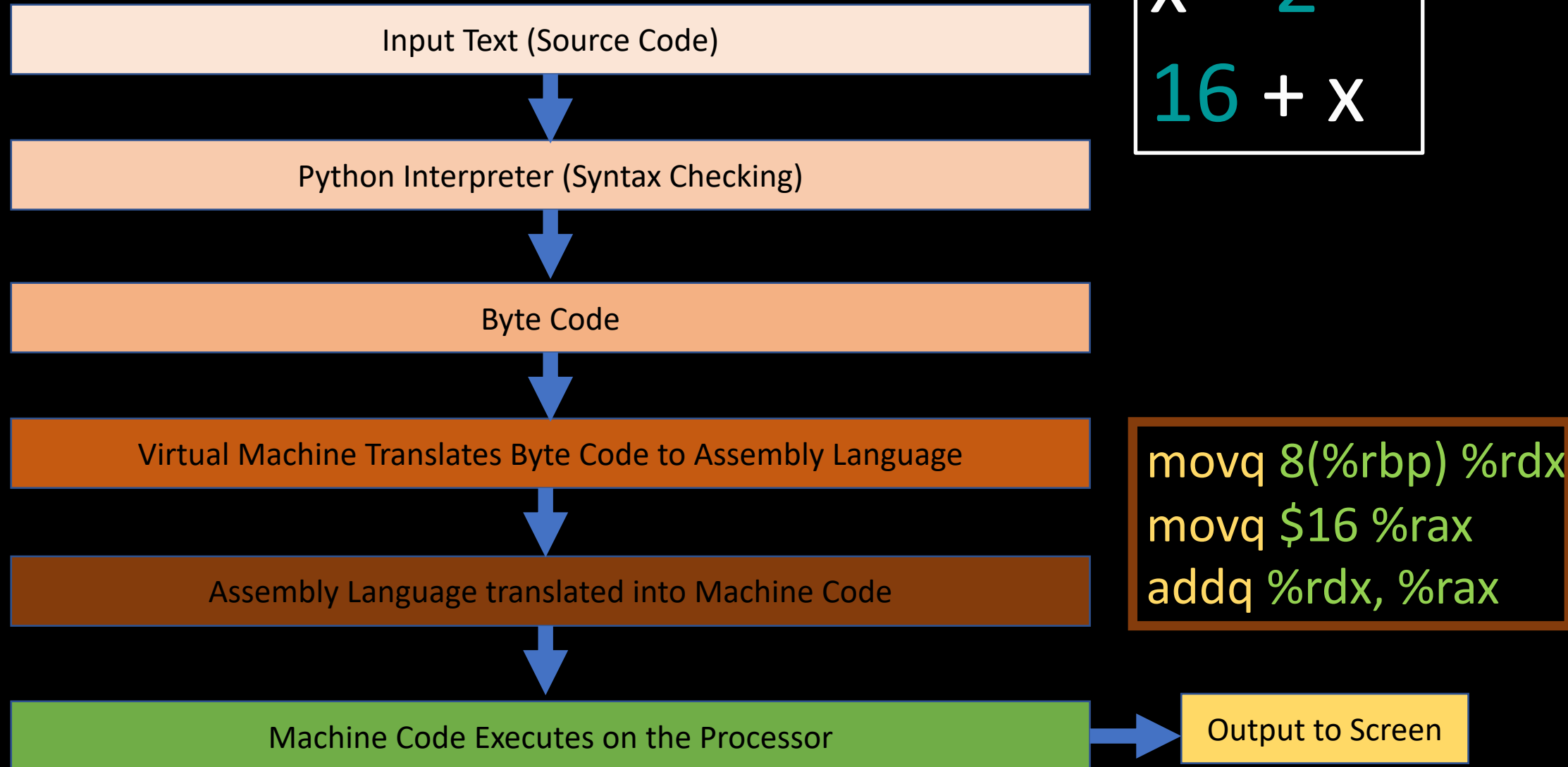
# What Python Does...



# What Python Does...



# What Python Does...

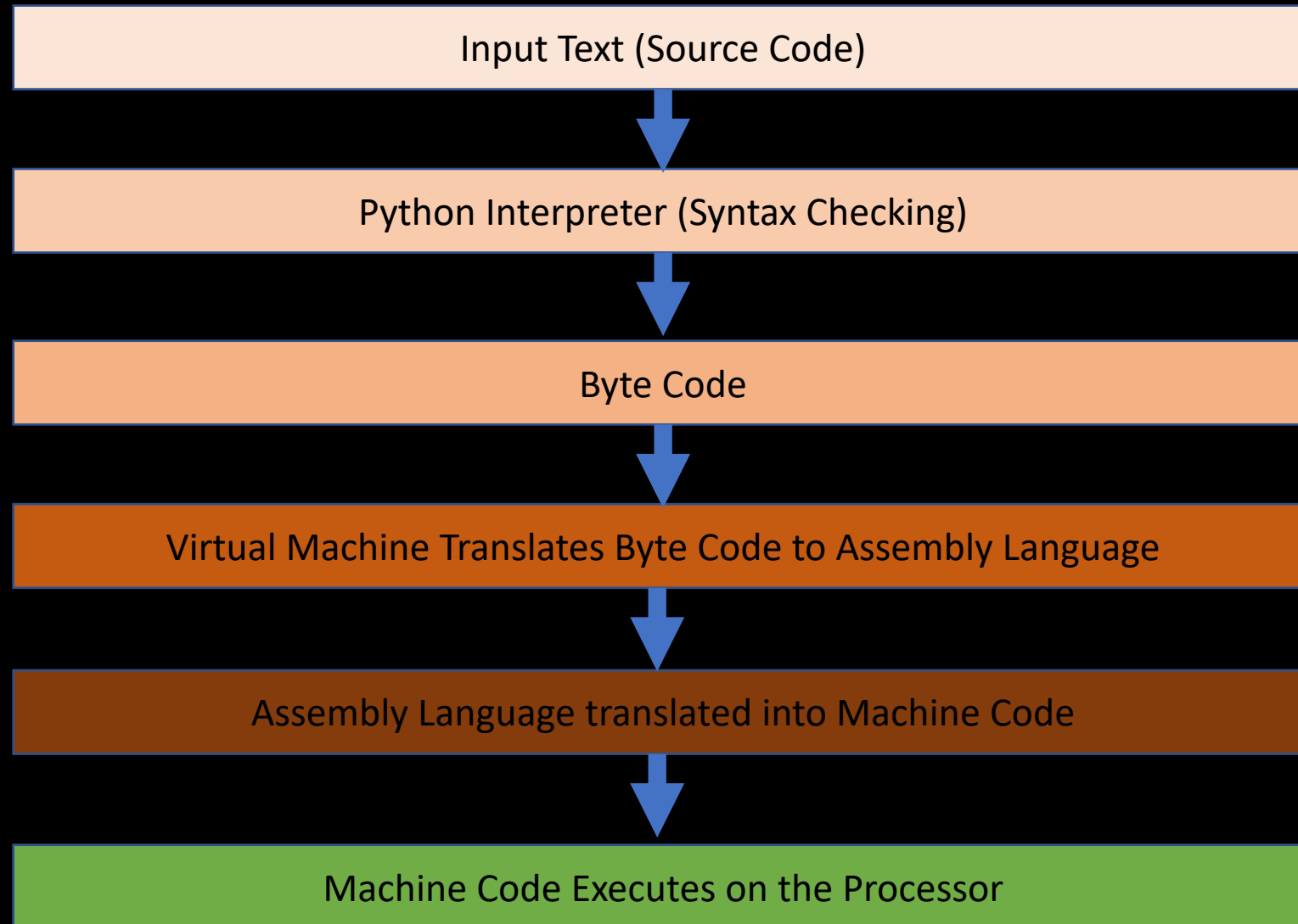


```
x = 2
16 + x
```

```
movq 8(%rbp) %rdx
movq $16 %rax
addq %rdx, %rax
```



# What Python Does...



```
x = 2
16 + x
```

```
movq 8(%rbp) %rdx
movq $16 %rax
addq %rdx, %rax
```

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Making that all happen... ZyBooks

# Making that all happen... ZyBooks

Write the simplest statement that prints the following:

**3 2 1 Go!**

Note: Whitespace (blank spaces / blank lines) matters; make sure your whitespace *exactly* matches the expected output.

```
1 print("3 2 1 Go!")  
2
```



1 test passed



All tests passed

**Run**

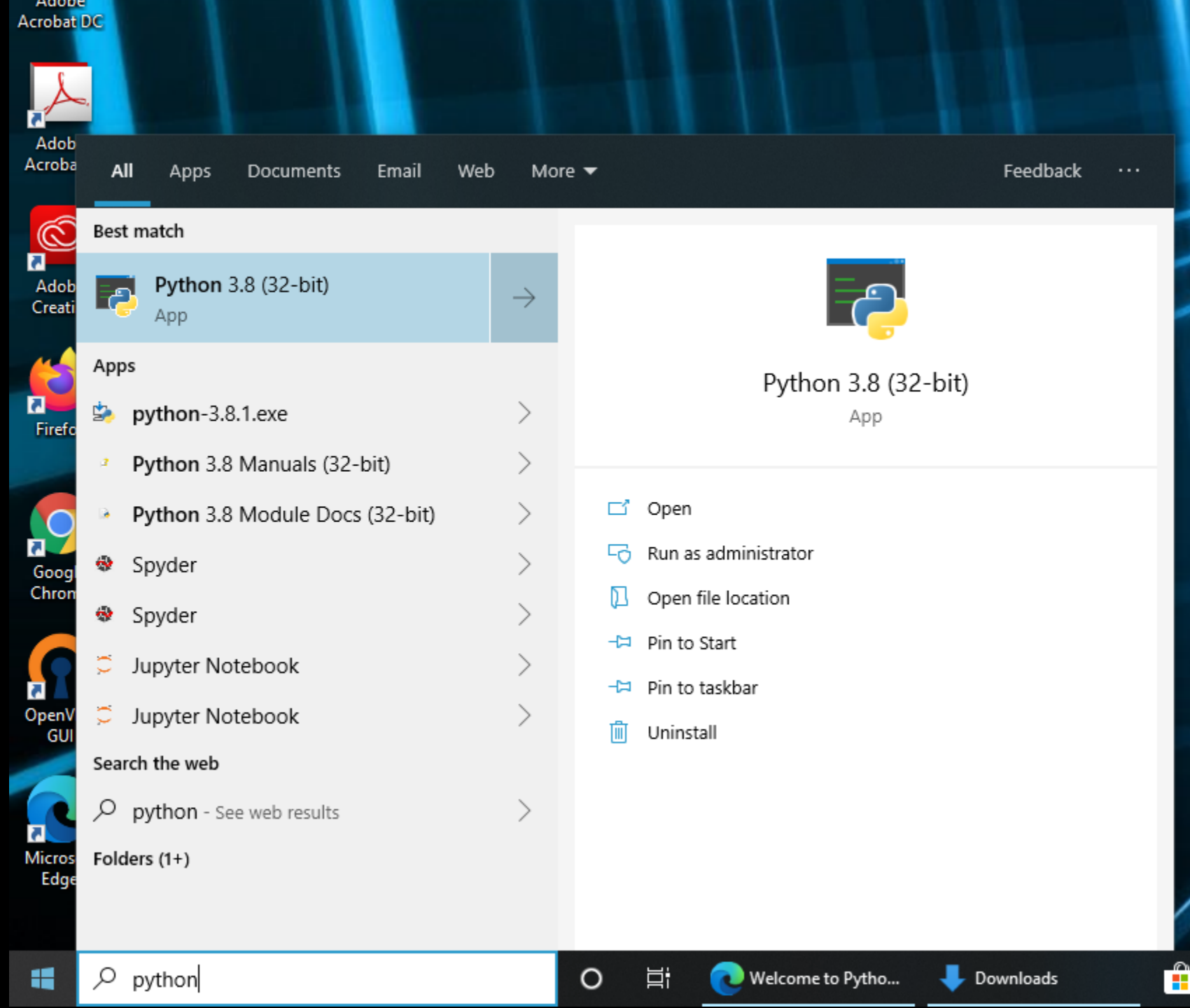
✓ All tests passed

✓ Testing for correct output

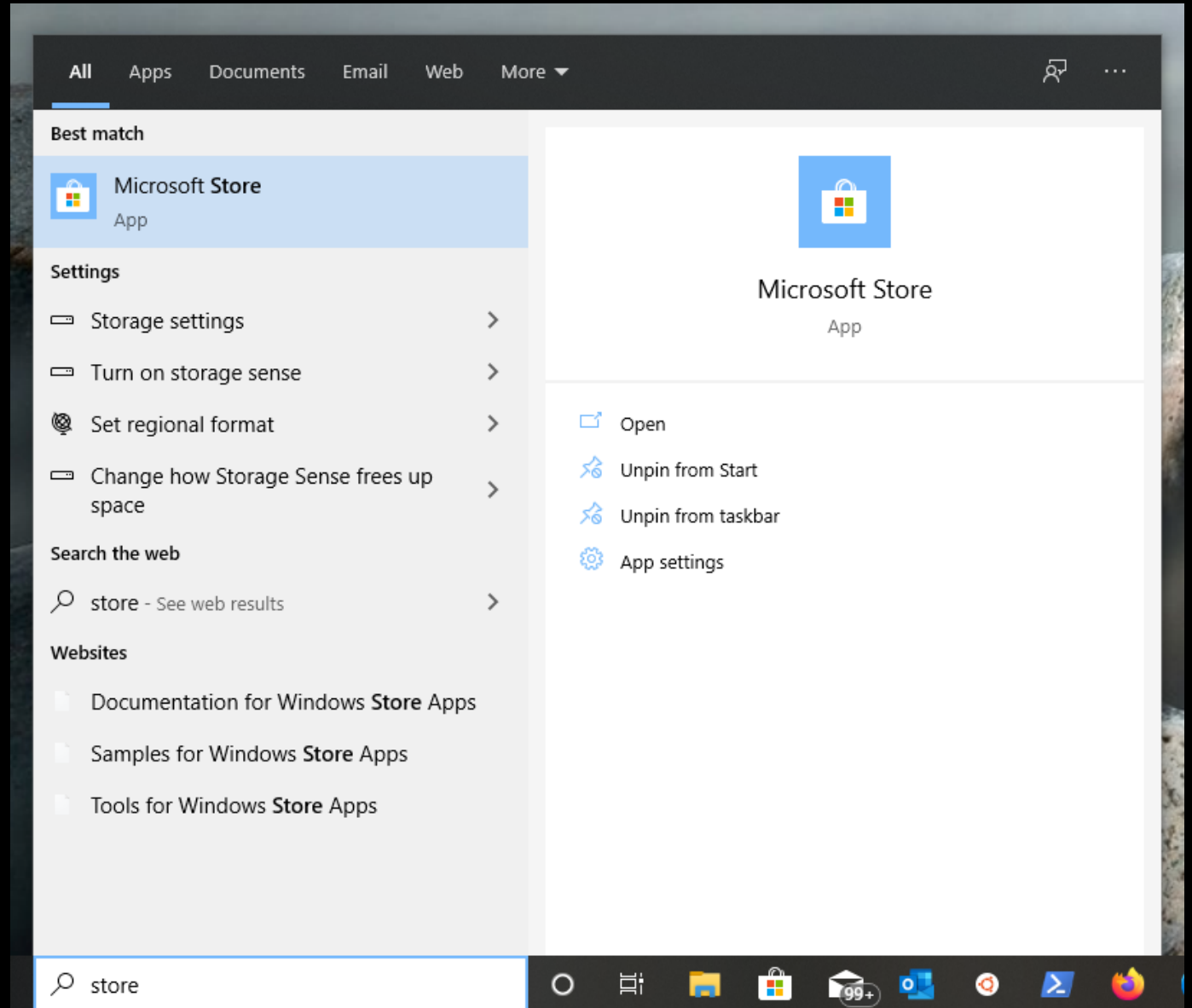
Your output

3 2 1 Go!

Making that  
all happen...  
Windows 10



Making that  
all happen...  
Windows 10  
Store  
(alternate to  
going to  
python.org)



Making that  
all happen...  
Windows 10  
Store

Microsoft Store







Home Gaming Entertainment Productivity Deals

Search 38

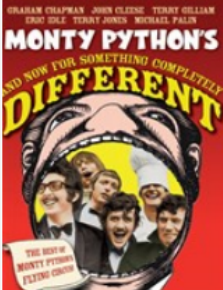
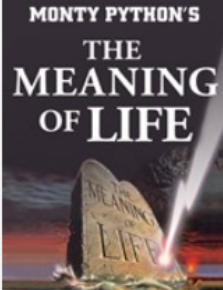




Results for: python

Departments: All departments Available on: PC

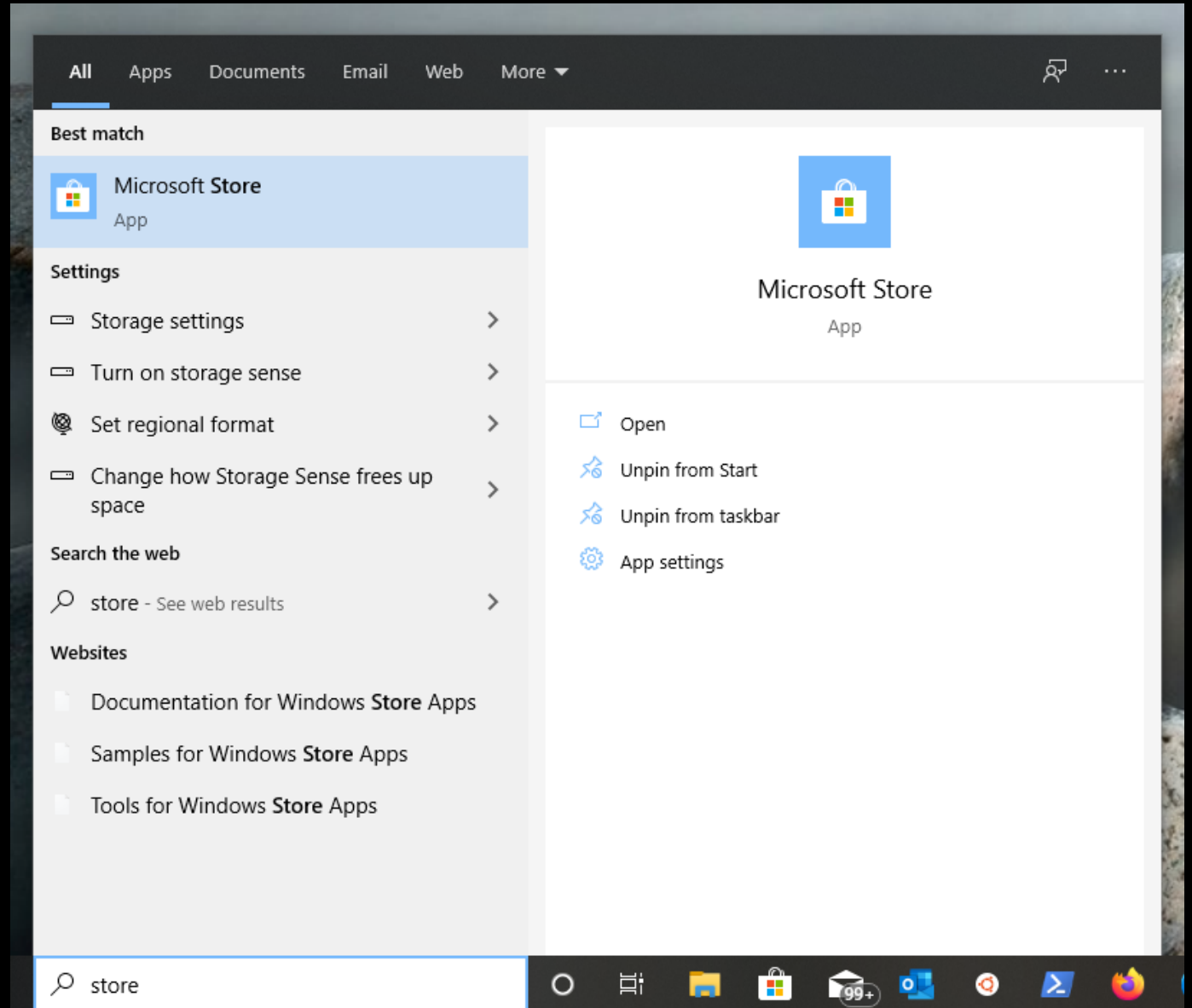
Apps (53) Show all

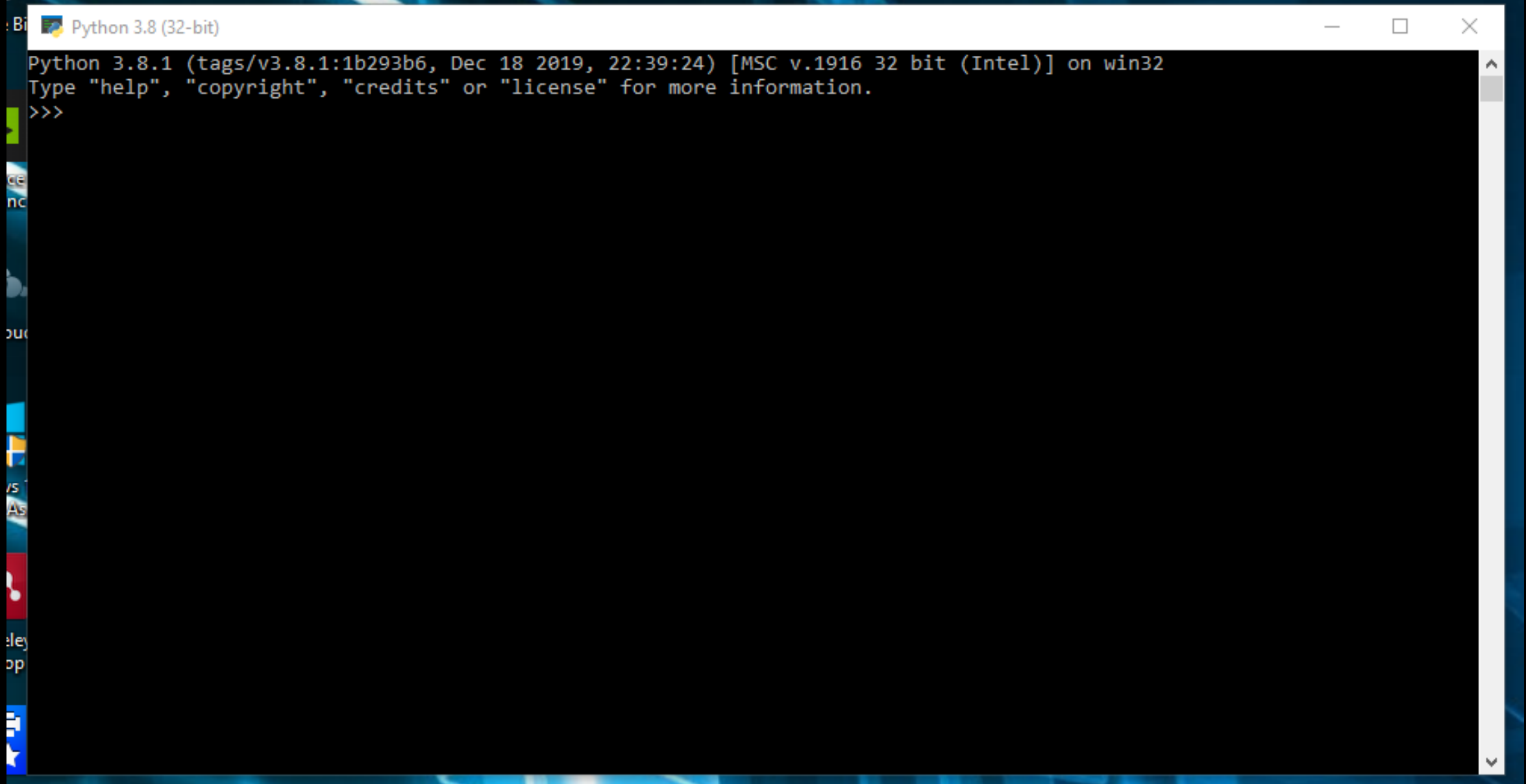
 <p>Python 3.8 ★★★★★ 19 Free</p>	 <p>Python 3.7 ★★★★★ 91 Owned</p>	 <p>Python 3 For Metro ★★★★★ 92 Free</p>	 <p>Python Programs ★★★★★ 59 Free</p>	 <p>Learn Python by GoLearningBus ★★★★★ 2 Free*</p>	 <p>Cool Fill Word, F ★★★★★ Free*</p>
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Movies (6) Show all

 <p>MONTY PYTHON'S DIFFERENT MOVIES</p>	 <p>MONTY PYTHON'S THE MEANING OF LIFE</p>	 <p>BOA vs PYTHON</p>	 <p>THE BATTLE OF THE WIZARD</p>	 <p>MONTY PYTHON'S MEGA PYTHON vs GATOROID</p>	 <p>ABS AN</p>
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# Making that all happen... Windows 10 Store



A screenshot of a Windows 10 desktop environment. A terminal window titled "Python 3.8 (32-bit)" is open, displaying the Python 3.8.1 startup screen. The terminal text includes the version information, build date, and architecture, followed by instructions to type "help", "copyright", "credits", or "license" for more information. The prompt ">>>" is visible. The background shows a portion of the Windows 10 taskbar with several application icons.

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

Making that all happen... Windows 10



# Making that all happen... OS X

The screenshot shows the macOS Spotlight search interface. The search bar at the top contains the text "terminal.app". The results are organized into several sections: "TOP HIT" with "Terminal.app" highlighted in blue; "DEVELOPER" with one "Terminal.xml" file and four "terminal.py" files; "FOLDERS" with five "terminal" folders; and "DEFINITION" which is currently empty. On the right side, a large preview card for "Terminal.app" is displayed, featuring a terminal icon, the title "Terminal.app", the version "2.9.5", and a table of metadata.

0rpm AMBIE: 32°C 89% Sun 19:03 Matthew Fricke

terminal.app

TOP HIT

- Terminal.app

DEVELOPER

- Terminal.xml
- terminal.py
- terminal.py
- terminal.py
- terminal.py

FOLDERS

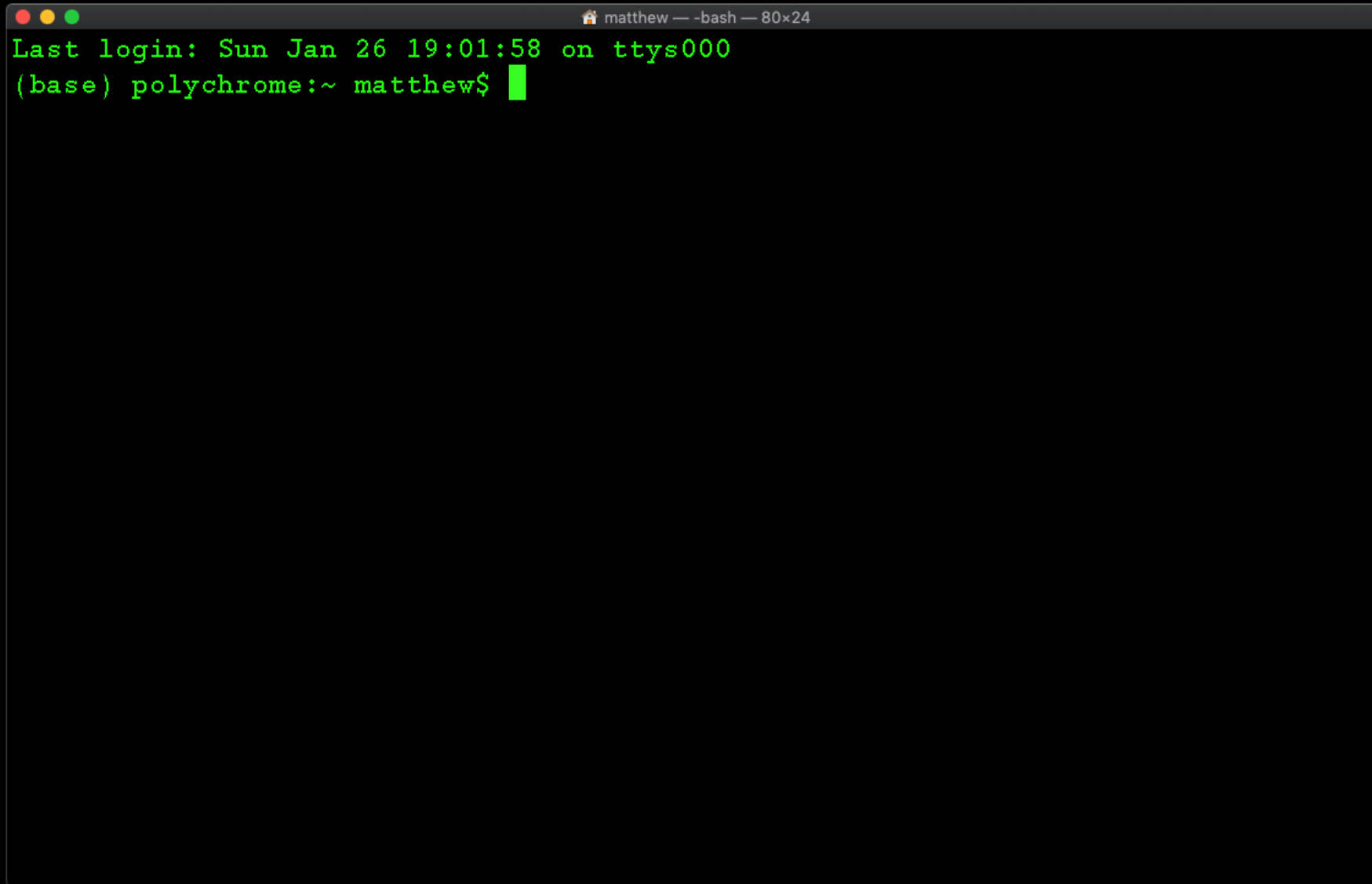
- terminal
- terminal
- terminal
- terminal
- terminal

DEFINITION

Terminal.app  
Version: 2.9.5

Kind	Application
Size	10.1 MB
Created	22/02/2019
Modified	25/09/2019
Last opened	21/01/2020

# Making that all happen... OS X



```
matthew — -bash — 80x24
Last login: Sun Jan 26 19:01:58 on ttys000
(base) polychrome:~ matthew$
```

# Making that all happen... OS X

```
matthew — python — 80x24
Last login: Sun Jan 26 19:01:58 on ttys000
(base) polychrome:~ matthew$ python
Python 3.7.3 (default, Mar 27 2019, 16:54:48)
[Clang 4.0.1 (tags/RELEASE_401/final)] :: Anaconda, Inc. on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> █
```

# Making that all happen... UNM Linux Server

```
lycaon:~ matthew$ ssh mfricke@linux.unm.edu
```

Use your UNM username

Eg. If my email is [mfricke@unm.edu](mailto:mfricke@unm.edu)  
so I use mfricke.

# Making that all happen... UNM Linux Server

```
lycaon:~ matthew$ ssh mfricke@linux.unm.edu
```

```
=====
=                               =
=           WARNING NOTICE TO USERS                               =
=           Authorized uses only.                                   =
=           All activity may be monitored and reported.           =
=====
```

```
mfricke@linux.unm.edu's password:
```

Use your my.unm.edu password

# Making that all happen... UNM Linux Server

mfricke@linux.unm.edu's password:

Last login: Thu Jan 9 15:49:19 2020 from 50.193.238.94

```
-----  
linux.unm.edu or ftp.unm.edu  
is Red Hat Enterprise 7  
-----
```

See available software and learn  
about this environment at:

<http://LinuxShellServices.unm.edu>

Terminal type? [xterm]      Press enter  
[mfricke@triton ~]\$

# Making that all happen... UNM Linux Server

mfricke@linux.unm.edu's password:

Last login: Thu Jan 9 15:49:19 2020 from 50.193.238.94

```
-----  
linux.unm.edu or ftp.unm.edu  
is Red Hat Enterprise 7  
-----
```

See available software and learn  
about this environment at:

<http://LinuxShellServices.unm.edu>

Terminal type? [xterm] Press enter  
[mfricke@triton ~]\$ python3

# Making that all happen... UNM Linux Server

```
[mfricke@triton ~]$ python3
Python 3.6.8 (default, Jun 11 2019, 15:15:01)
[GCC 4.8.5 20150623 (Red Hat 4.8.5-39)] on
linux
Type "help", "copyright", "credits" or
"license" for more information.
>>>
```

Press enter