

# Python Coding

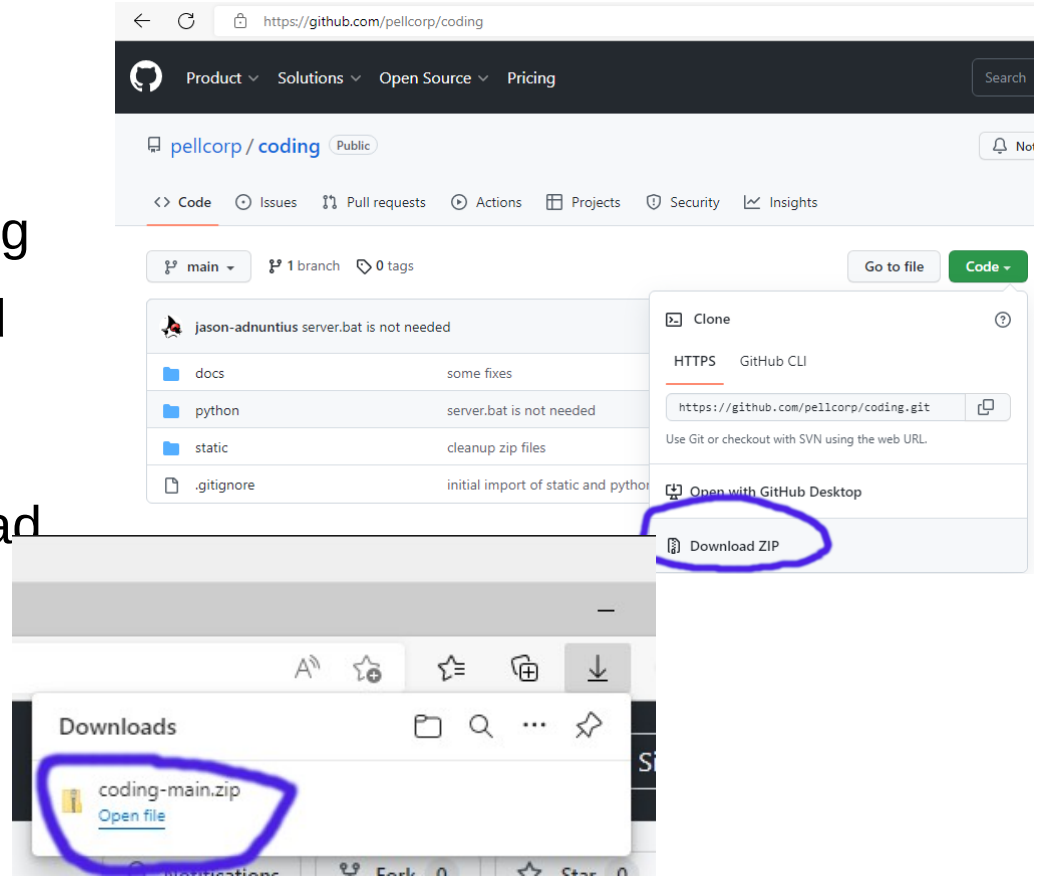


<https://raw.githubusercontent.com/pellcorp/coding/main/docs/python-coding-notepad.pdf>

# Getting the Sample Code



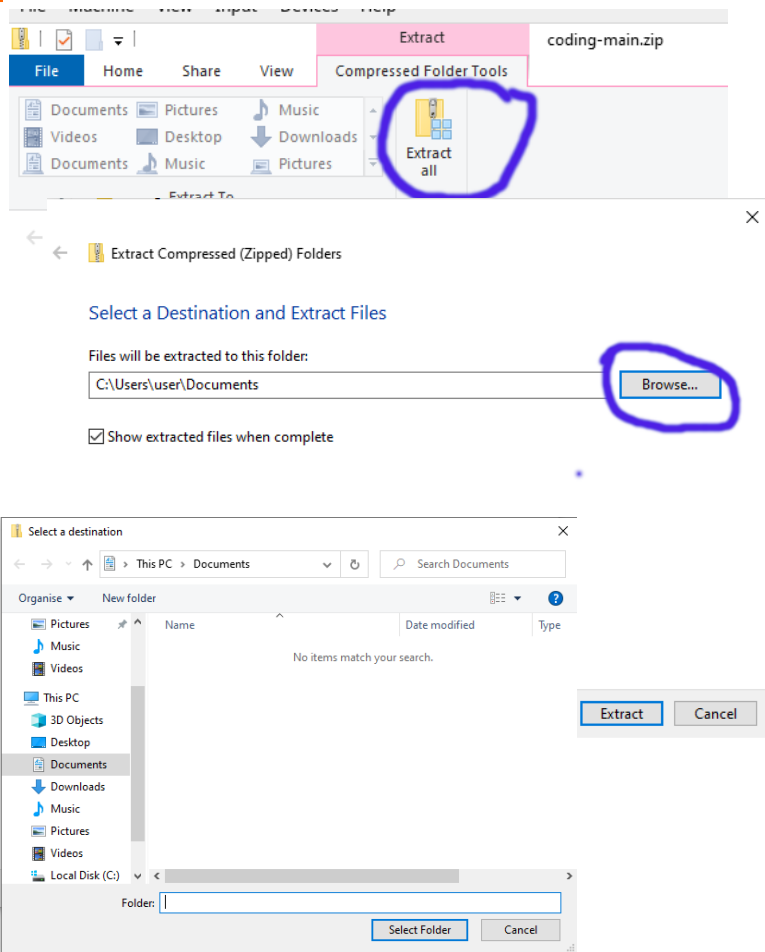
- Open Chrome or Edge and navigate to:  
<https://github.com/pellcorp/coding>
- Click the *green* **Code** button and then the **Download ZIP** button
- Click **open file** for **coding-main.zip** in the browser download window.



# Getting the Sample Code Cont.



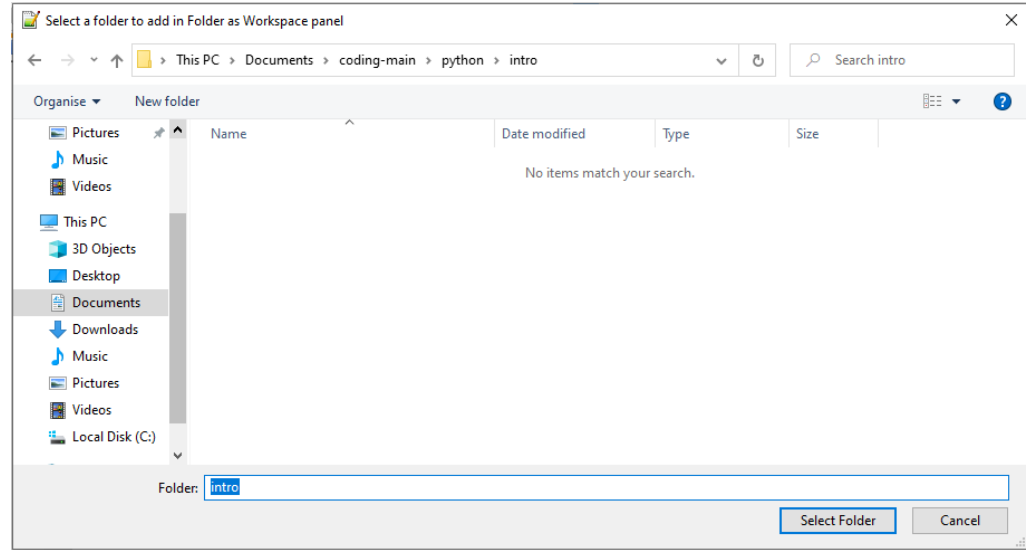
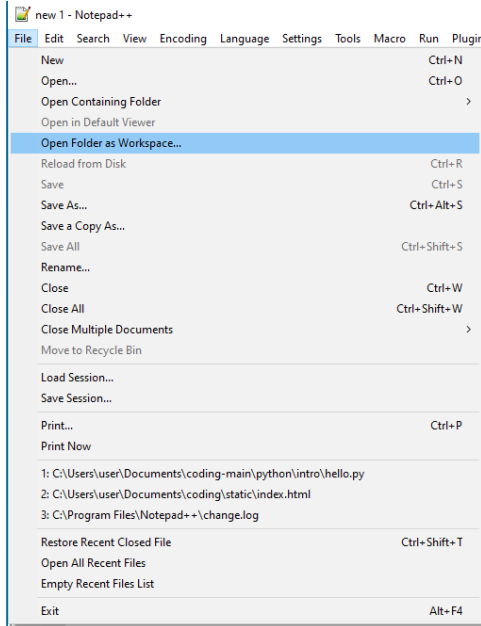
- Click the Extract all button
- When Prompted to **Select a Destination and Extract Files**, click the **Browse...** button
- And choose your *School Drive* Folder
- Click Extract



# Notepad++



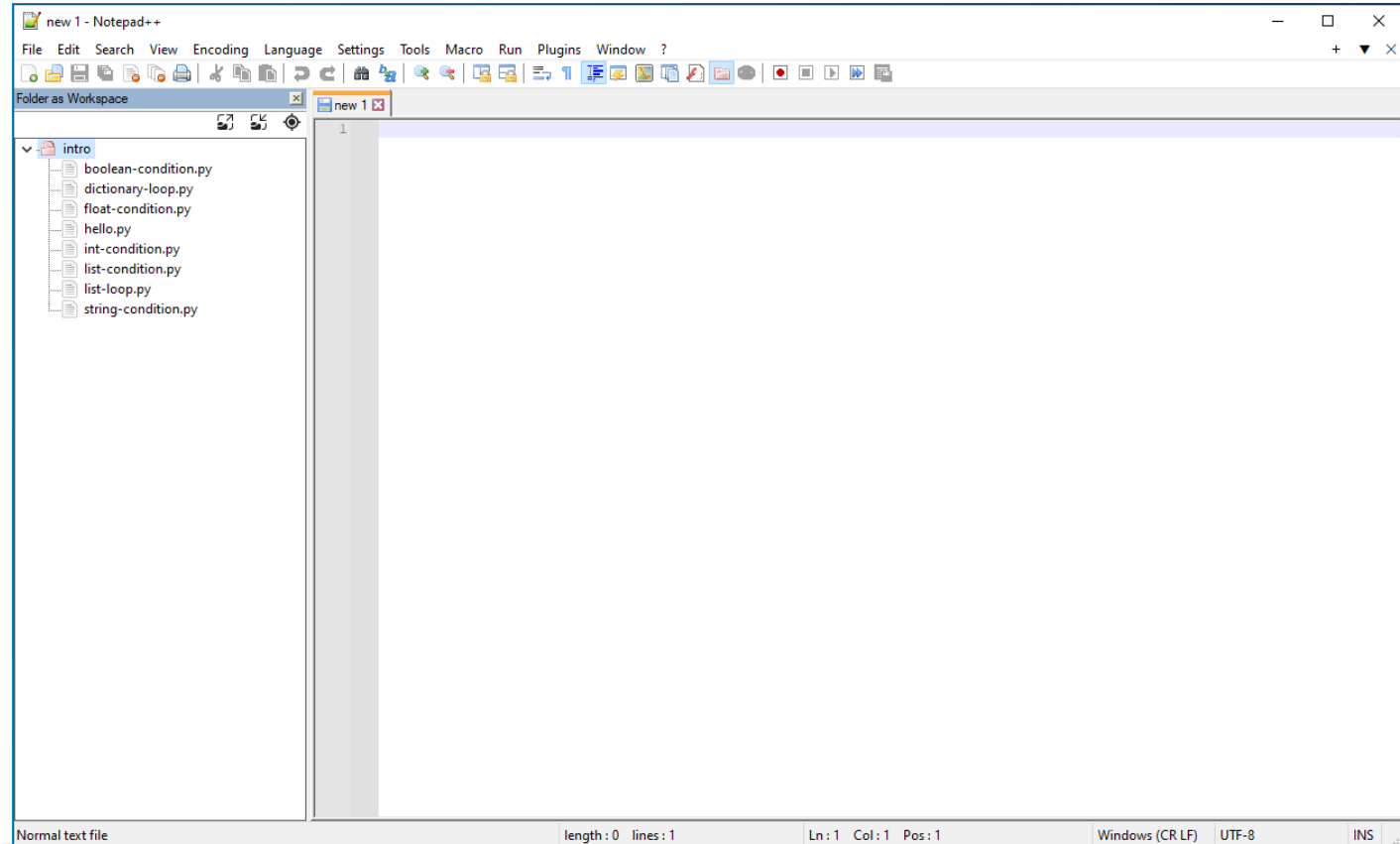
- **Open coding-main/python/intro Folder as Workspace**



# Notepad++ Sample Code



- You should see this now:



# What is Python



- A programming language which is very popular, especially for beginners.
- We are going to learn by doing, including playing with and changing sample code.
- What are we going to do:
  - Output – printing to the console
  - Variables
  - Conditional Statements
  - Loops

# Python - Variables



- Strings
  - “Hello World”
- Integer Numbers
  - Are whole numbers, numbers without decimal points
- Floating Point Numbers
  - Are numbers with a decimal points.
- Booleans
  - True or False
  - Boolean arithmetic
- Lists
  - A way to group values into a structure, so that python can operate on them together, an example would be:
    - `states = ['VIC', 'NSW', 'TAS', 'SA', 'NT', 'QLD', 'WA']`

# Python If Statements



- We are going to be playing with IF statements today, they look like this:

```
if <condition>:  
    statement
```

```
elif <condition>:  
    statement
```

```
else:  
    statement
```

- Don't worry too much about understanding it all, hopefully once we start hacking on the samples some of it will become a bit clearer.



# Python If Statement Conditions



- A condition is something that evaluates to true or false, and example would be.
- A condition is of the format:
  - value or variable **<operator>** value or variable
- Condition **operators** include:
  - **==** equals
  - **!=** not equals
  - **>** greater than
  - **>=** greater than or equal
  - **<** less than
  - **<=** less than or equal
  - **in** value in a list or string.
  - **not in** value not in a list or string

# Running Python from Windows Terminal



- Remember Windows Terminal?
- Windows Key + R
- Then **cmd** and Enter
- Cd to the coding-main directory
- `python <python file>`

```
C:\Users\user\Documents\coding-main\python\intro>python boolean-condition.py
Im a boolean
C:\Users\user\Documents\coding-main\python\intro>_
```

# Samples



- The python intro folder

```
Directory of C:\Users\user\Documents\coding-main\python\intro
25/10/2022  10:34 AM    <DIR>          .
25/10/2022  10:34 AM    <DIR>          ..
25/10/2022  10:34 AM                100 boolean-condition.py
25/10/2022  10:34 AM                228 dictionary-loop.py
25/10/2022  10:34 AM                241 float-condition.py
25/10/2022  10:34 AM                 21 hello.py
25/10/2022  10:34 AM                196 int-condition.py
25/10/2022  10:34 AM                159 list-condition.py
25/10/2022  10:34 AM                114 list-loop.py
25/10/2022  10:34 AM                252 string-condition.py
            8 File(s)                1,311 bytes
            2 Dir(s)  26,107,473,920 bytes free
```

- The Basics:
  - Hello World
  - If Statements
  - Lists
  - Dictionaries
- Functions
- All together now!

# Exercises



- Run the `hello.py`
  - Change the text that is printed to the VSC Terminal window
- Hack the following scripts:
  - `string-condition.py`
  - `int-condition.py`
  - `float-condition.py`
  - `boolean-condition.py`
  - `list-condition.py`
- Change the code so that it prints different message(s) in `elif` and `else` statements.