

# Visual Studio

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## steps to instal vs code -->

- 1- google - vscode - download the software & install the software
- 2- start - open vscode application
- 3- systm cmd - check your path location
- 4- manually -- c:drive and reach to path location -- create folder (vscode project)
- 5- extension --> github copilot python debugger arepl for python autodocstring coderunner intellicode jupyter llm-vscode markdownlint officeviewer pdfviwer python pylance python image preview

## NUMPY

- NumPy is a Python library. NumPy is used for working with arrays. NumPy is short for "Numerical Python".
- Why Use NumPy?
- In Python we have lists that serve the purpose of arrays, but they are slow to process.
- NumPy aims to provide an array object that is up to 50x faster than traditional Python lists.
- The array object in NumPy is called ndarray, it provides a lot of supporting functions that make working with ndarray very easy.

```
In [4]: import numpy as np
```

```
In [5]: np.__version__
```

```
Out[5]: '1.26.4'
```

```
In [6]: my_list = [1,2,3,4]  
        type(my_list)
```

```
Out[6]: list
```

```
In [7]: arr = np.array(my_list)
```

```
In [8]: type(arr)
```

```
Out[8]: numpy.ndarray
```

```
In [9]: np.arange(10)
```

```
Out[9]: array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])
```

```
In [10]: np.arange(3.5)
```

```
Out[10]: array([0., 1., 2., 3.])
```

```
In [12]: np.arange(True)
```

```
Out[12]: array([0])
```

```
In [13]: np.arange(False)
```

```
Out[13]: array([], dtype=int32)
```

```
In [14]: np.arange(3,9)
```

```
Out[14]: array([3, 4, 5, 6, 7, 8])
```