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| Command | Use | environment |
| python -m venv <venv\_name> | To create virtual environment in the same parent directory named venv\_name | macOS, linux |
| python3 -m venv <venv\_name> | windows |
| source venv\bin\activate | Activates venv | macOS, linux |
| venv\Scripts\activate | windows (cmd) |
| .\venv\Scripts\Activate.ps1 | windows (powershell) |
| deactivate | Deactivates venv | universal |
| pip freeze > requirements.txt | This file generates and lists all the packages and their versions that are installed in that env automatically | universal |
| pip install -r requirements.txt | To share our project, we should include this file. Others can then use it to set up the exact same environment:  1. Create and activate a new virtual environment.  2. Run the following command to install all the required packages: | univer |
| **PowerShell execution policies** (this is a error which may occur while activating your venv) | | |
| Get-ExecutionPolicy | To get the effective execution policy | Windows |
| Get-ExecutionPolicy -List | To get all of the execution policies that affect the current session and display them in precedence order | = |
| Get-ExecutionPolicy -Scope CurrentUser | To get the execution policy for the **CurrentUser** scope | = |
| Set-ExecutionPolicy -ExecutionPolicy <PolicyName> | To change your execution policy | PolicyName = [ Unrestricted, RemoteSigned, AllSigned, Restricted, Default, Bypass, Undefined] |
| Set-ExecutionPolicy -ExecutionPolicy <PolicyName> -Scope <scope> | To set the execution policy in a particular scope |
| Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser | | |
| rm -rf <venv\_name> | To remove virtual env, run after deactivate | MacOS, Linux |
| rmdir /s /q <venv\_name> | Windows |

**venv in python**

(cmd command to create multi files : for /d %i in (\*) do type nul > "%i\.gitkeep" )

**collections in python**

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| **Class** | **Description** | **Use Case** |
| namedtuple | Creates tuple subclass with named fields. | Enhancing code readability and self-documentation. |
| deque | A list-like container with fast appends and pops on either end. | Implementing queues, stacks, or sliding window algorithms. |
| Counter | A dictionary subclass for counting hashable objects. | Quickly counting item frequencies in a sequence. |
| defaultdict | A dictionary subclass that provides a default value for missing keys. | Simplifing code that groups data or handles missing keys |
| OrderedDict | A dictionary subclass that remembers the order of insertion | Legacy code or scenarios where insertion order is critical. |