



Information on Python Software with Packages

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We create files in different folders and subfolders based on some criteria. So that files managed easily. For example we have start some website and data of that website is completely in folder so that we can access that data and folder and run the website.

The same thing is manage by the packages in Python.

Python Package:

Some modules of python may contain different classes, function, variables, etc. whereas Python packages contain several modules.

The Package in Python is a folder that contains various modules as files.

How to create a Package?

Let's start to create a package in Package named myfirst that will contain two modules pack1 and pack2.

1. Create a folder named myfirst.
2. Inside this folder create an empty Python file i.e. `__init__.py`
3. Then create two modules pack1 and pack2 in this folder.

Pack1.py

```
def gif():  
    print("Welcome to gif")
```

Pack2.py

```
def sum(a,b):  
    return a+b
```

What `__init__.py` do?

`__init__.py` helps the Python interpreter recognize the folder as a package. Which specified the resources to be imported from the modules. If is shows empty than all functions of modules will be imported.

```
from .pack1 import gif  
from .pack2 import sum
```

pip list:

This will display a list of all the Python packages installed in your Python environment and their versions.

Pip freeze:

This generates a list of installed packages and their versions in a format that is commonly used for specifying project dependencies in a requirements.txt file.

Pipenv:

pipenv is a popular tool for managing Python project environments and dependencies.

Pipdeptree:

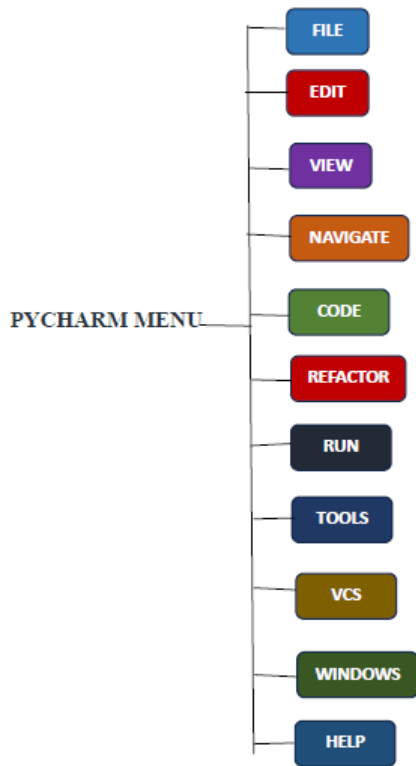
It is a Python package that helps you visualize and list the dependencies of installed packages in a tree-like structure.

And Many more packages like

- | | |
|------------------|--------------|
| 1. Pandas | 10. Flask |
| 2. Keras | 11. NumPy |
| 3. Tensorflow | 12. ELI5 |
| 4. Scrapy | 13. Sklearn |
| 5. Data Analysis | 14. Theano |
| 6. MoviePy | 15. Pendulum |
| 7. Pip | 16. Pytest |
| 8. Audio | 17. Seaborn |
| 9. PyBrain | 18. Pillow |



What tools and menu you can see in Pycharm?



Quick Type Definitions, Appearances, go forward, go backward, search everywhere, classes, File, Symbols, Text, Navigate in File, Inspect the code, code cleanup, Analyze the code, Reformat the code, Reformat the files, Auto-Indent Lines, Optimize imports, Unwrap/ remove, code completion, Refactor this, Change the Signature, Extract/ Introduces, move file, copy file.

This are the ribbon of Pycharm software from where we can create new projects, different coding files, save files, Open files, import, export to the files, copy the files or code, paste the code, undo or redo, delete the files or code, Take a different tools, Check recent files, Parameter Info,



FILE



New Project, New, Scratch file, Open, Save as, Recent Project, Close Project, Rename Project, Remote Development, settings, File Properties, Local History, Save All, Reload All from disk, Repair IDE , Invalidate Catches, , Manage IDE Settings, , New Projects Setups, Save File as Templates, Export, Print, Power save

EDIT



Undo, Redo, Cut, Copy, Copy Path/References, Paste, Delete, Find, Find Usages, Column Selection Mode, Select All, Add Carets to Ends of Selected Lines, Extend Selection, Shrink Selection, Toggle case, Join Lines, Duplicate Line, Fill Paragraph, Sort Lines, Reverse Lines, Transpose, Indent Selection, Unindent Line or Selection, Convert Indents, Macros, Bookmarks, Encode XML/HTML Special Characters, Edit as Tables.

VIEW



Tool Windows, Appearance, Quick Definition, Quick Type Definition, Parameter Info, Type Info, Context Info, Recent Files, Recent Changed Files, Recent Locations, Recent Changes, Compare with, Compare with Clipboard, Quick Switch Scheme, Active Editor, Increase Font size in All Editors, Decrease Font size in All Editors, Reset Font size, Bidi Text Base Direction.

NAVIGATE

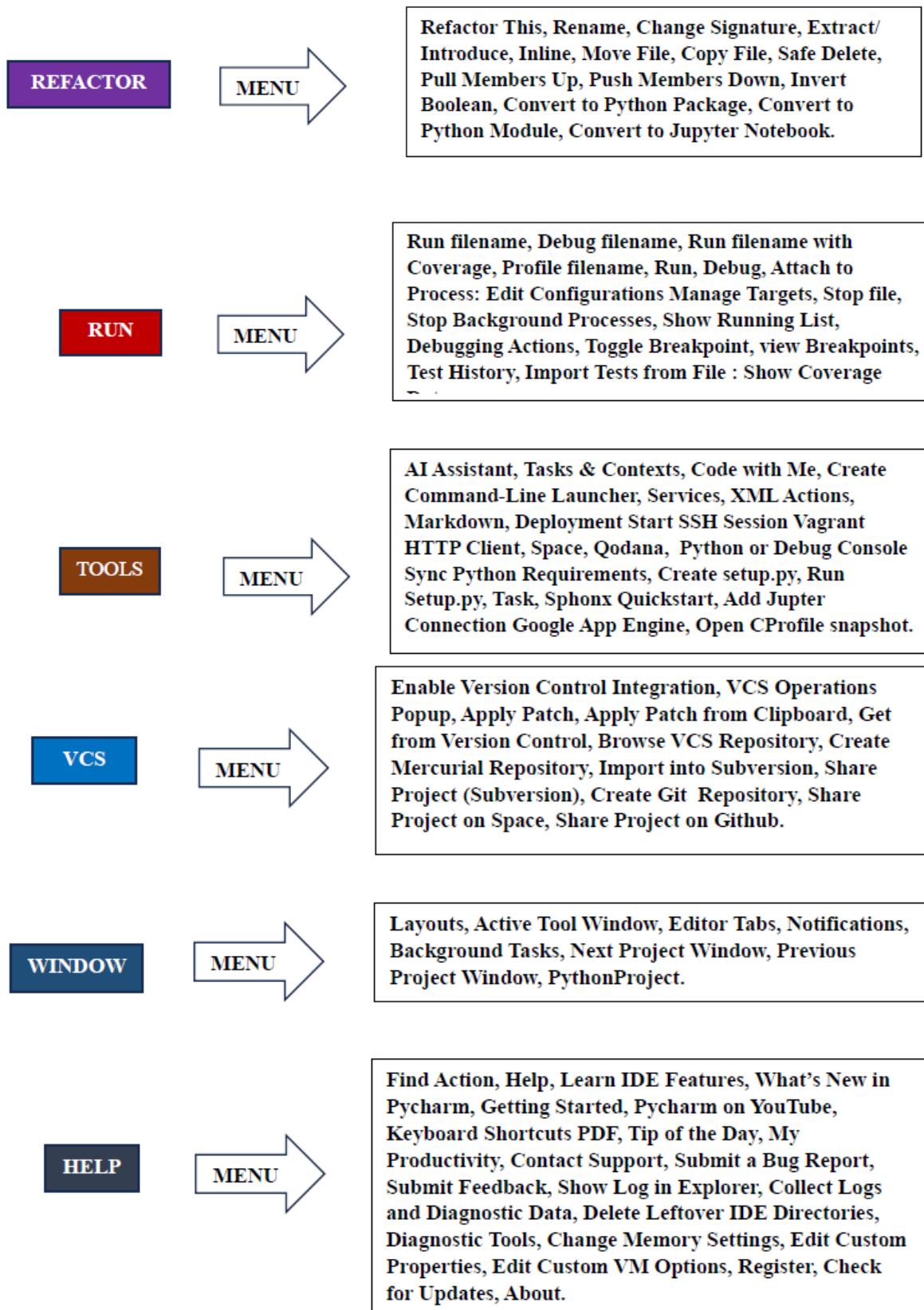


Back, Forward, Search Everywhere, class, File, Symbol, Text, Line:Column, URL Mapping, Next Highlighted Error, Previous Highlighted Error, Last Edit Location, Next Edit Location, Navigate in File, Select in, Jump to Navigate Bar, Declarations or Usages, Implementation(s), Type Declaration, Super Method, Related Symbol, File Structures, File Path, Type Hierarchy, Method Hierarchy, Call Hierarchy

CODE



Override Methods, Implements Methods, Generate, Code Completion, Inspect Code, Code Cleanup, Analyze Code, Analyze stack Trace or Thread Dump, Insert Live Template, Save as Live Template, Surround with, Unwrap / Remove, Folding, Comment with Line Comment, Comment with Block Comment, Reformat Code, Reformat File, Auto-Indent Lines, Optimize Imports, Rearrange Code, Move Statement Down, Move Statement Up, Move Element Left, Move Element Right, Move Line Down, Move Line Up, Update Copyright.





Here you can see Menu [submenu]

Ribbon	Menu	Sub-Menu
File	Recent Projects	Turtle, Website, Manage Projects
	File Properties	File Encoding, Add BOM, Associate with File Type, Make File Read Only Line Separators: CRLF – Windows (r\n) LF - Unix and MacOS (n) CR – Classic MacOS (r)
	Local History	Show History, Show History for selection, Put Label
	Manage IDE Settings	Import Settings, Export Settings Restore Default settings, Setting Sync
	New Projects Setup	Settings for New Projects Run Configurations Templates
Export	Files in Selection in HTML	
Edit	Paste	Paste, Paste from History, Paste as Plain Text
	Find	Find, replace, find next occurrences, Find Previous occurrences, Select all occurrences, Add Selection for Next occurrences, Unselect occurrences, Search in selection, Next occurrences of the word at caret, Previous occurrences of the word at caret, Find in files, Replace in files, Search structurally {} Evaluate JSON Path Expression.
	Find Usages	Find Usages, Find Usages settings, Show usages, Find usages in file, Highlight usages in file, Next Highlighted usage, Previous Highlighted usage, Recent Find Usages
	Convert Indents	To Spaces, To Tabs
Macros	Play Back Last Macro, Start macro Recording, Edit Macros, Play Saved Macros	
Bookmark	Toggle bookmarks, Add Mnemonic Bookmarks Previous Line Bookmarks, Next Line Bookmarks, Show line Bookmarks, Go to mnemonic.	
View	Tool Window	Commit, Project, Bookmarks find, Run, Debug, Problems, Structure, services, Version Control, AI Assistant, Coverage, Database, endpoints, Hierarchy Learn, Notifications, Plots, Python Console, Python Packages, Terminals, TODO.



	Appearances	<p>Enter Presentation Mode, Enter Distraction free mode, Enter Full Screen, Enter Zen Mode, Compact Mode, Zoom IDE (Current 100%).., Presentation Assistant, show main menu in separate toolbar, Toolbar, Navigation Bar, Tool Window Bars, Status Bar, Status Bar Widgets, Details in Tree View</p> <p>Navigation Bar: Top, in status bar, Don't Show, Show members</p> <p>Status Bar Widgets: Status text, File system Sync, code with me wire stats, default Deployment server, Aggregations, Grid Position, Line Column Number, Line Separator, File Encoding Power save Mode, Editor Selection Mode, Indentation, Json Schema, AI Assistant in status Bar, Typescript, Flow JS, Python Interpreter, Read- Only Attribute Memory Indication.</p>
	Navigate in file	<p>Next Method, Previous Method, Move caret to matching brace, Next Live Template Parameter, Previous Live template Parameter.</p>
Code	Code Completion	<p>Basic, Type-Matching, Complete current Statement, Cyclic Expand Word, Cyclic Expand Word (Backword), Insert Line Proposals, Complete code with AI Assistant.</p>
	Analyze Code	<p>Silent Code Cleanup, Run Inspection by Name, Configure current file Analysis, view, offline Inspection Results, Locate Duplicates, Data Flow to here, Data Flow from here, Show Vulnerable, Dependencies.</p>
	Folding	<p>Expand, Expand Recursively, Expand All, Collapse, Collapse recursively, Collapse.</p> <p>Expand to Level- Ctrl + NumPad *,1 Ctrl + Numpad *, 2 Ctrl + Numpad *,3 Ctrl + Numpad *,4 Ctrl + Numpad *,5</p> <p>Expand All to Level- Ctrl + Shift+ Numpad *, 1 Ctrl + Shift + Numpad *,2 Ctrl + shift + Numpad *,3 Ctrl + Shift + Numpad *,4 Ctrl + Shift + Numpad *,5</p>
Run	Profile filename	<p>Profile filename, Concurrency Diagram, For filename</p>
	Debugging Actions	<p>Step Over, Force Step Over, Step Into, Smart Step into, Step Out, Run to cursor, Force run to cursor, Reset Frame, Pause Program, Resume Program, Evaluate Expression, Quick Evaluate Expression, Show Execution Point.</p>



	Toggle Breakpoint	Line breakpoint, Temporary Line, Breakpoint, Toggle Breakpoint Enabled.
Tools	Tasks & Contexts	Switch Tasks, Open tasks, Close Active Tasks, Edit Default Tasks, Edit 'Default Tasks', Create Changelist, Show description, Open in browser, Analyze stack trace from task, Configure Servers, Time Tracking, Save Context, Load Context, Clear Control. Time Tracking – Start Timer
	Services	Docker, Registry, Docker – Connections, Connections from contexts. Convert Schema
	XML Actions	Import word document, Export Markdown file to, Configure Pandoc.
	Markdown	Upload to default server, Upload to, Upload all options files to default server, upload all open files to download from default server, Download from, Compare Local file with deployed version, compare with Deployed to, Sync Local subtree with deployed, sync with deployed to, Configurations, options, automatic upload, Browse remote Host.
	Deployment	Up, Reload, Provision, Suspend, resume, Halt, Destroy, Share, Init in Project root.
	Vagrant	Create Request in HTTP Client, Open HTTP requests Collectors, Show HTTP Requests, History, Convert CURL to HTTP Requests, Add to HTTP Client, Import from Postman Collection File. Add to HTTP Clients- Variables in public files, variables in private files, Auth Configurations.
	HTTP Client	Share project on space, clone repository, log in to space. Try code Analysis with Qodana, Add Qodana to CI Pipeline, Login Qodana, Open Local Report.
	Space	Upload App Engine app, Get App Engine Logs, Run App cfg.py tasks.
	Qodana	
	Google App Engine	



VCS	Browse VCS Repository	Browse subversion Repository, show Git Repository log
Windows	Layouts	Default, Custom, Restore current Layouts, Save Changes in current Layout, Save current Layout as New. Custom- Apply, Rename, Delete.
	Active Tool Window	Hide Active Tool Window, Hide Side Tool Window, Hide All Windows, Close Active Tab, Jump to Last tool window, Maximize Tool Window, View Mode, Move to, Group Tabs, Resize. View Mode – Dock Pinned, Dock Unpinned, Undock, Float, Window. Move to – Left top, Left Bottom, Bottom Left, Bottom right, Right Bottom, Right top. Resize- Stretch to left, Stretch to right, Stretch to top, Stretch to Bottom.
	Editor Tabs	Select Next Tab, Select Previous tab, Pin tab, keep tab open, close tab, close other tabs, close all tabs, close unmodified tabs, close all but pinned, close tabs to the left, close tabs to the right, close all read-only, Reopen closed Tab, Split with chosen Navigation, stretch Editor to Top, Stretch Editor to Left, Stretch editor to Bottom, Stretch editor to right, Change Splitter orientation, Maximize editor / Normalize splits, unsplit All, Goto Next Splitter, Goto Previous splitter, Configure Editor Tabs. Close First, Close All Show, Auto Show.
	Notifications	
	Background Tasks	
Help	Diagnostic Tools	Activity Monitor, Analyze Plugin, Start up Performance, Dump Threads, Debug Log settings, Start CPU usage. Profiling, start Async Profiler, Capture Memory, Snapshot, Execute Performance Script, Profile indexing, Open indexing Diagnostic.

Shortcut Keys in Pycharms

Ribbon Name	Menu	Shortcut Keys
File	New File	Alt + Insert
	New Scratch File	Ctrl + Alt + Shift+ Insert
	Settings	Ctrl + Alt + S
	Save All	Ctrl + S
	Reload All from Disk	Ctrl + Alt + Y
Edit	Undo	Ctrl +Z
	Redo	Ctrl + shift + Z
	Cut	Ctrl + X
	Copy	Ctrl + C
	Delete	Delete
	Find	Ctrl + F
	Replace	Ctrl + R
	Find Next Occurrences	F3
	Find Previous Occurrences	Shift + F3
Select All Occurrences		



	Add Selection for next occurrences Unselect occurrence Search in selection Next occurrences of the word at caret Previous Occurrences of word at caret Find in Files Replace in Files Find usages Find usages settings Show usages Find usages in File Highlight usages in file Select All Add carets to Ends of selected Lines Extend Selection Shrink Selection Toggle case Join Lines Duplicate Line or Selection Indent Selection Unindent Line or Selection Bookmark – Show line Bookmarks Bookmarks – Go to mnemonic	Ctrl + Alt + Shift + J Alt + J Alt + shift + J Ctrl + Alt + E Ctrl + F3 Ctrl + Shift + F3 Ctrl + shift + F Ctrl + shift + R Alt + F7 Ctrl + Alt + shift + F7 Ctrl + Alt + F7 Ctrl + F7 Ctrl + shift + F7 Ctrl + A Alt + Shift + G Ctrl + W Ctrl + shift + W Ctrl + shift + U Ctrl + shift + J Ctrl + D Tab Shift + Tab Shift + F11 Ctrl + shift + F11
View	Quick definition Recent files Recent Locations Recent Changes Quick Switch Scheme Tool Windows Commit Project Bookmarks Find Run Debug Problems Structure Services Version Control Terminal	Ctrl + shift + I Ctrl + E Ctrl + shift + E Alt + shift + C Ctrl + ` Alt + 0 Alt + 1 Alt + 2 Alt + 3 Alt + 4 Alt + 5 Alt + 6 Alt + 7 Alt + 8 Alt + 9 Alt + F12
Navigate	Back Forward Class File Symbol	Ctrl + Alt + Left Ctrl + Alt + Right Ctrl + N Ctrl + shift + N Ctrl + Alt + shift + N



	<p>Text URL Mapping Next Highlighted Error Previous Highlighted Error Next Emmet Edit Point Previous Emmet Edit Point Last Edit Location Navigation in file- Next Method Previous Method Move to caret to matching brace Jump to Navigation Bar Declaration or usages Implementation(s) Type Declaration Super Method Related Symbol File structure File Path Type Hierarchy Method Hierarchy Call Hierarchy</p>	<p>Ctrl + Alt + shift +E Ctrl + shift + \ F2 Shift + F2 Alt + shift +] Alt + shift + [Ctrl +shift + Backspace Alt + Down Alt + Up Ctrl + shift + M Alt + Home Ctrl + B Ctrl + Alt + B Ctrl + shift + B Ctrl + U Ctrl + Alt + Home Ctrl + F12 Ctrl + Alt + F12 Ctrl + H Ctrl + shift + H Ctrl + Alt + H</p>
Code	<p>Override methods Implements Methods Generate Insert Live Templates Surround with Unwrap / Remove Analyze code- Run inspection by name Configure current file analysis Folding- Expand Expand Recursively Expand All Collapse Collapse Recursively Collapse All Folding Selection/ remove region Fold Code Black Comment with Line comment Comment with Block comment Reformat code Reformat file Auto-Indent Lines Optimize Imports Move statements Down Move statements Up Move Element Left Move element Right Move Line down</p>	<p>Ctrl + O Ctrl + I Alt + Insert Ctrl + J Ctrl + Alt + T Ctrl + shift + Delete Ctrl + Alt + Shift + T Ctrl + Alt + shift + H Ctrl + Numpad + Ctrl + Alt + Numpad + Ctrl + Shift + Numpad + Ctrl + Numpad - Ctrl + Alt + Numpad - Ctrl + shift + Numpad - Ctrl + ` Ctrl + shift + Ctrl + / Ctrl + shift + / Ctrl + Alt + L Ctrl + Alt + shift + L Ctrl + Alt + I Ctrl + Alt + O Ctrl + shift + Down</p>



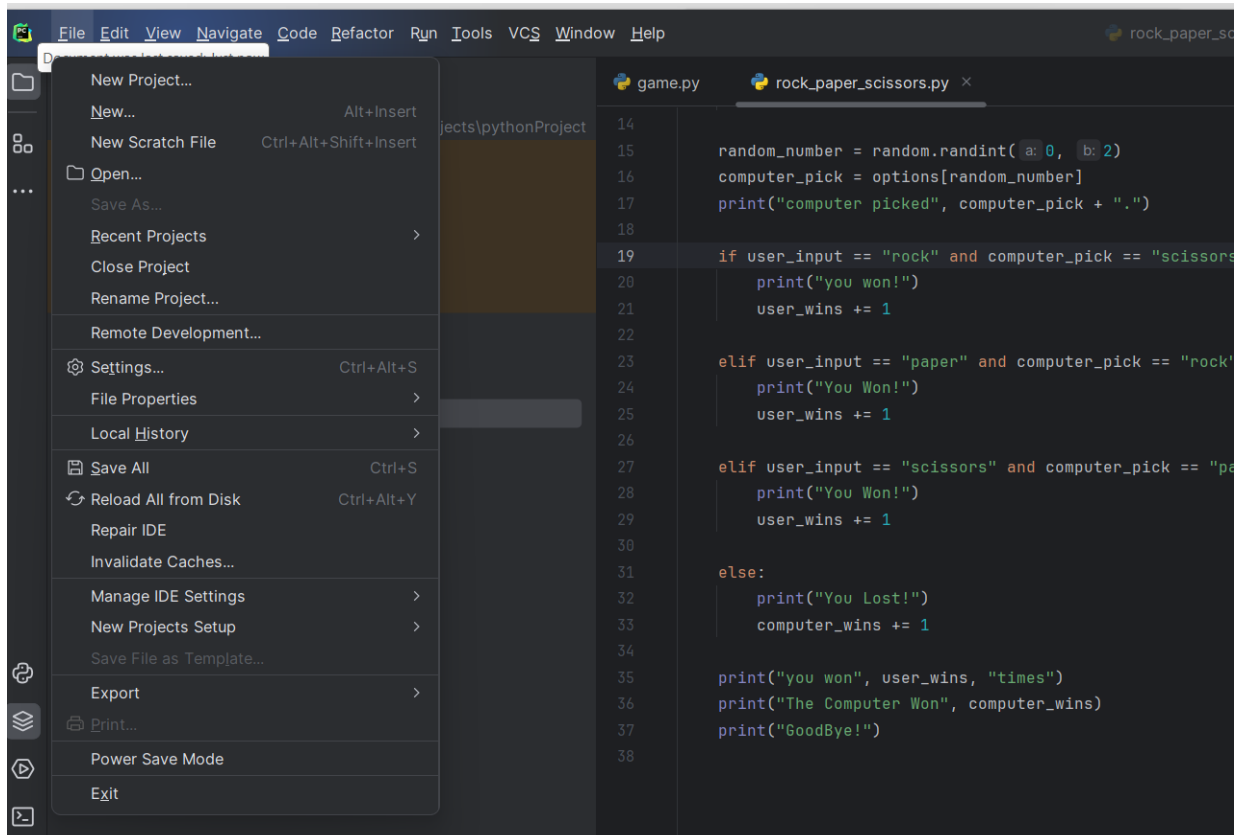
	Move Line Up	Ctrl + shift + Up Ctrl + Alt + shift +Left Ctrl + Alt + shift + right Alt + shift + Down Alt + shift + Up
Refactor	Refactor This Rename Change Signature Extract/Introduce: Variables Constant Field Parameter Method Inline Move file Copy file Safe Delete	Ctrl + Alt + shift + T Shift + F6 Ctrl + F6 Ctrl + Alt + V Ctrl + Alt + C Ctrl + Alt + F Ctrl + Alt + P Ctrl + Alt + M Ctrl +Alt + N F6 F5 Alt + Delete
Run	Run filename Debug Filename Run Debug Attach to process Stop Stop background processes Debugging Actions: Step Over Force step over Step Into Smart step Into Step out Run to cursor Force run to cursor Resume program Evaluate expression Quick Evaluate expression Show Execution Point Toggle Break Point: Line Breakpoint Temporary Line breakpoint View Breakpoints Show coverage Data	Shift + F10 Shift + F9 Alt + shift + F10 Alt + shift + F9 Ctrl + Alt + F5 Ctrl + F2 Ctrl + shift + F2 F8 Alt + shift + F8 F7 Shift + F7 Shift + F8 Alt + F9 Ctrl + Alt + F9 F9 Alt + F8 Ctrl + Alt + F8 Alt + F10 Ctrl+ F8 Ctrl + Alt + shift + F8 Ctrl + shift + F8 Ctrl + Alt + F6
Tools	Task & Contexts: Switch Task Open Task Close Active Task Open in Browser Save Context Load Context Clear Context Code with me Deployment: Upload to	Alt + shift + T Alt + shift +N Alt + shift + W Alt + Shift + B Alt + shift + S Alt + shift + L Alt + shift + x Ctrl + shift + Y Ctrl + Alt + shift + X



VCS	VCS Operations Popup	Alt + `
Windows	Restore current layout Active Tool Window- Hide Active Tool Window Hide All Windows Close Active Tab Jumps to last tool window Maximize Tool Window Editor Tabs – Select next tab Select Previous Tab Close Tab New Project Window Previous Project Window Find actions	Shift + F12 Shift + Escape Ctrl + shift + F12 Ctrl + shift + F4 F12 Ctrl + shift + Quote Alt + Right Alt + Left Ctrl + F4 Ctrl + Alt +] Ctrl + Alt + [Ctrl + Shift + A
Help		

So this article published by Shaikh Jasmin Kauser Mohd Shakil. To give knowledge on basic shortcut keys and what menu and sub menu we can see in Pycharm Software for Python or any languages.

You can see in this pictures



So I have Shown all basic shortcut keys that we never notice while doing coding and many things like menu and sub-menu never use.