

# Python with Django

## Day 1 Task

**Name:Chavda Raj M.**

**College: Government Engineering College,Modasa**

**Sem: 7<sup>th</sup> / Information technology**

**Course: Bachelor of Engineering**

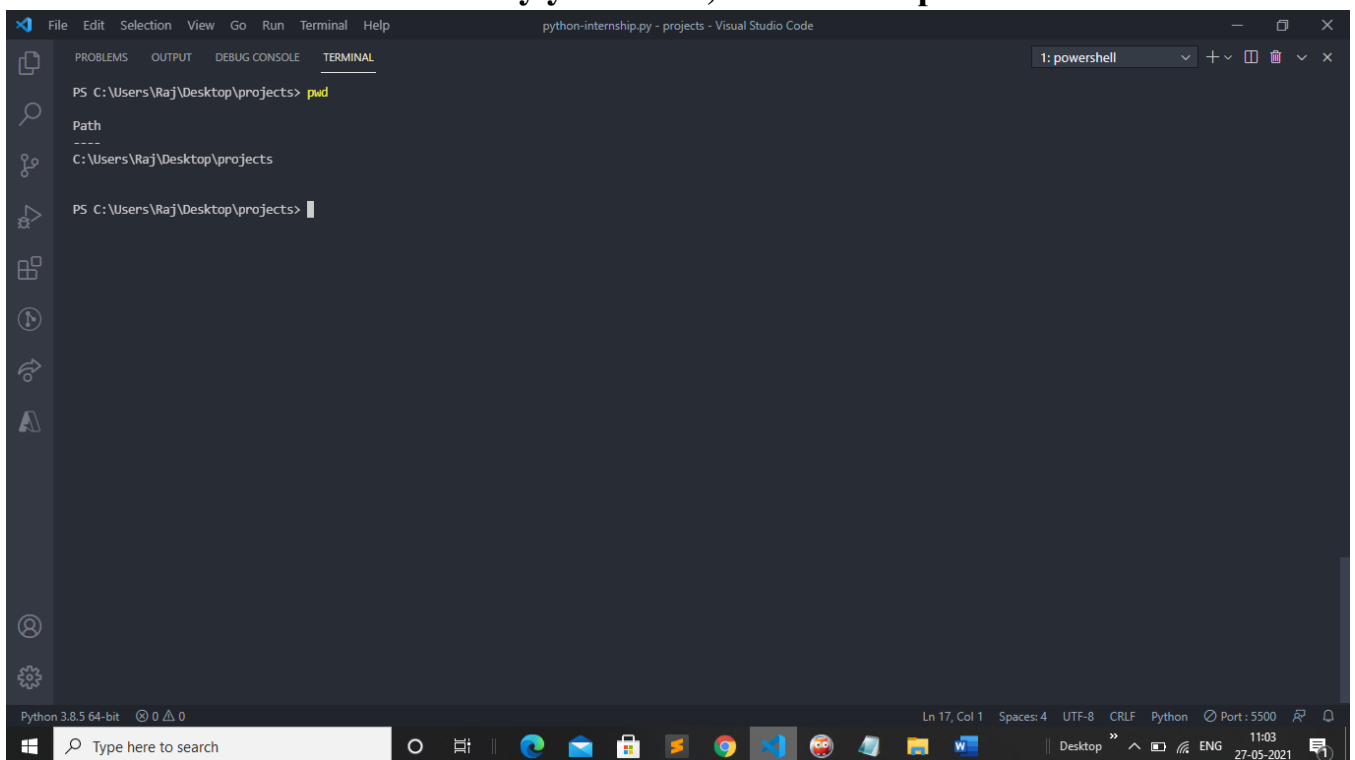
---

### (1) Write 20 Linux commands with example

i. **pwd**

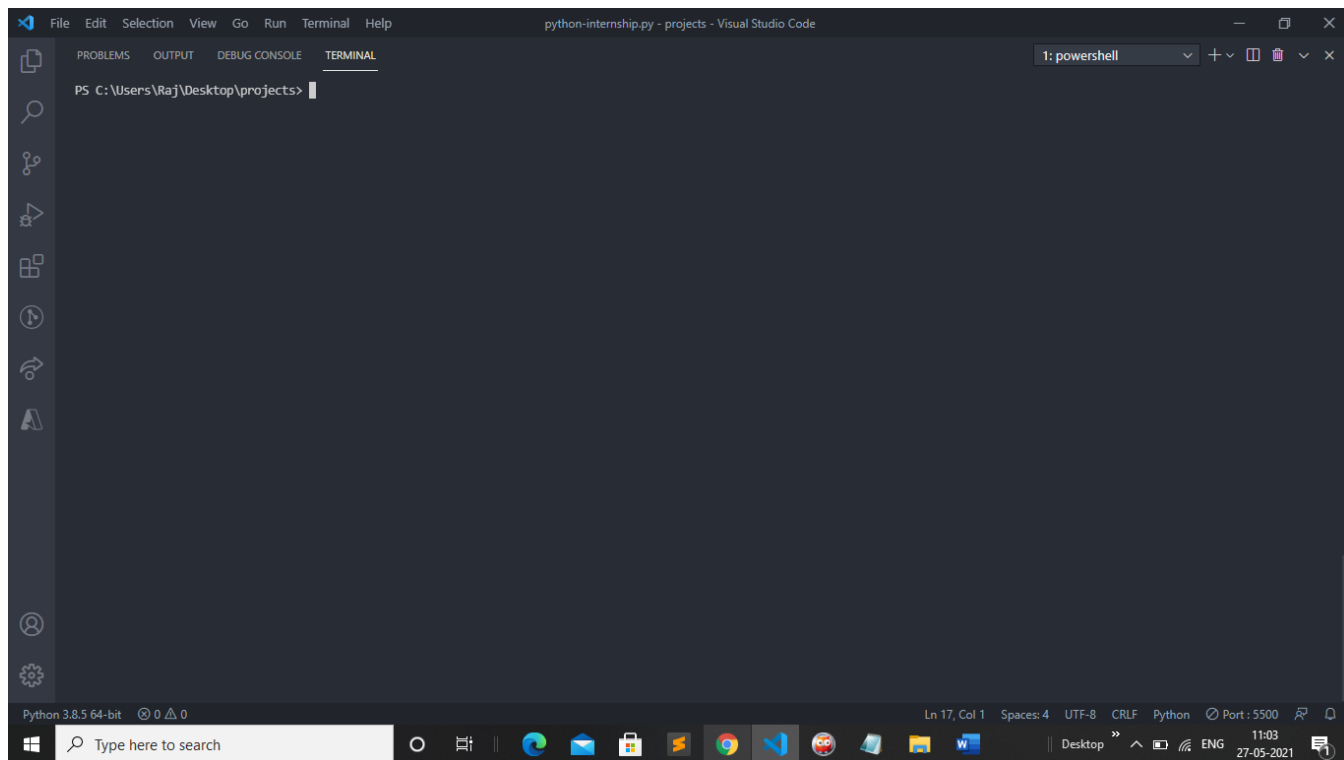
**Get-Location**

**To know which directory you are in, we can use 'pwd' command.**

A screenshot of the Visual Studio Code interface. The 'TERMINAL' tab is active, showing a PowerShell session. The prompt is 'PS C:\Users\Raj\Desktop\projects>'. The command 'pwd' has been entered and executed. The output shows the current path as 'C:\Users\Raj\Desktop\projects'. The status bar at the bottom indicates 'Python 3.8.5 64-bit' and 'Ln 17, Col 1'.

ii. **clear** clear is a standard operating system command which is used to clear the terminal screen.

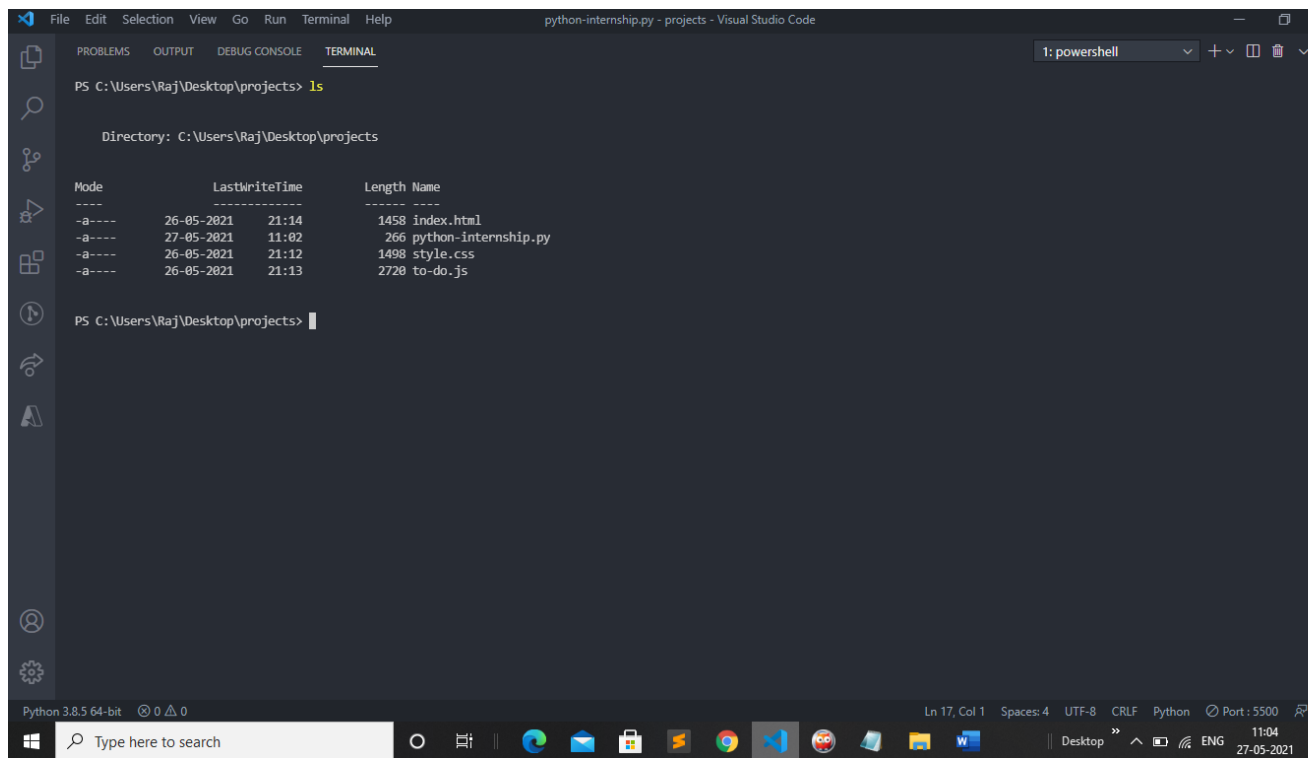
**Syntax- \$ clear**



iii. **zip, unzip** — Use **zip** to compress files into a zip archive, and **unzip** to extract files from a zip archive.

iv. **ls**  
**The ls command lists files and directories within the file system, and shows detailed information about them.**

**Syntax: \$ ls [OPTIONS] [FILES]**



The screenshot shows the Visual Studio Code interface with a terminal window open. The terminal is running a PowerShell command 'ls' in the directory 'C:\Users\Raj\Desktop\projects'. The output shows a table of files and directories with columns for Mode, LastWriteTime, Length, and Name.

Mode	LastWriteTime	Length	Name
-a----	26-05-2021 21:14	1458	index.html
-a----	27-05-2021 11:02	266	python-internship.py
-a----	26-05-2021 21:12	1498	style.css
-a----	26-05-2021 21:13	2728	to-do.js

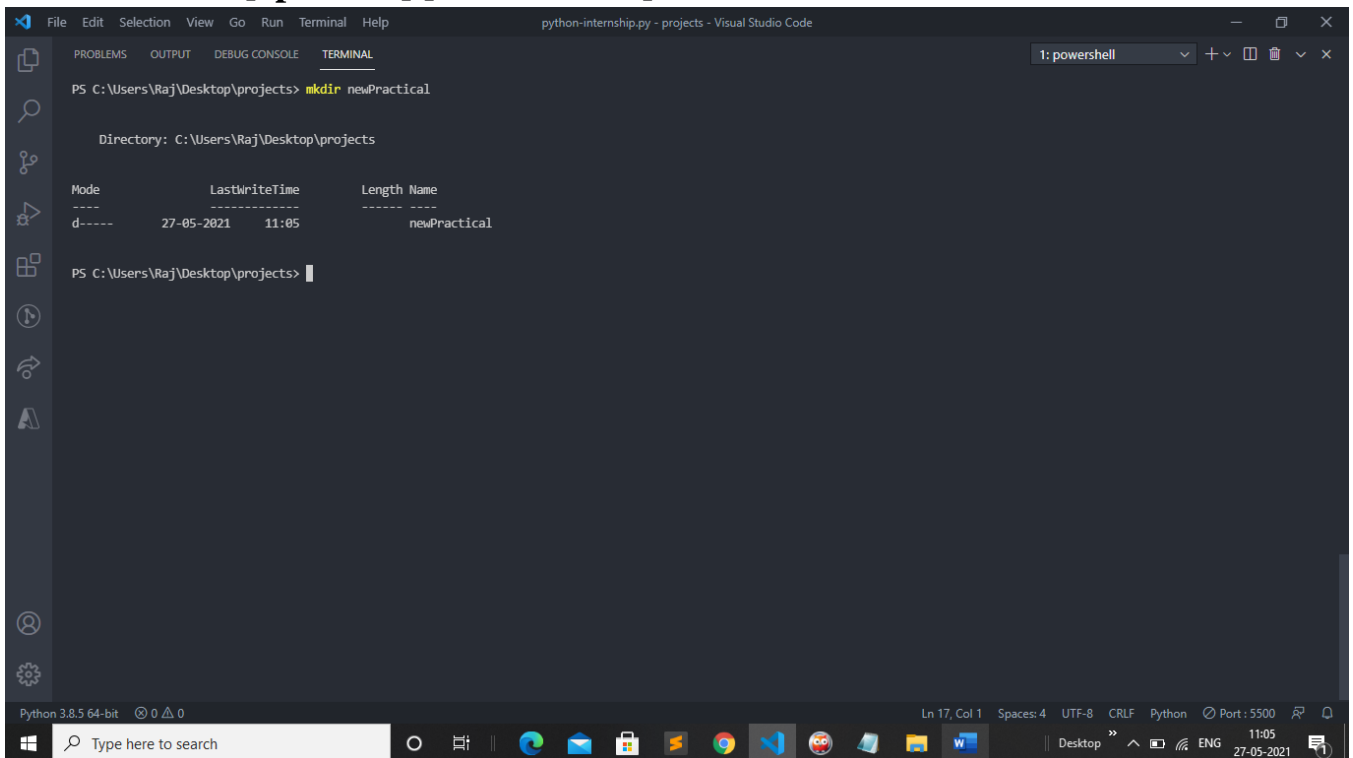
- v. **exit**  
Exits from the terminal.



The screenshot shows a Windows PowerShell terminal window. The command 'exit' has been entered at the prompt 'PS C:\Users\Raj> exit', and the terminal window is closing.

- vi. **mkdir** mkdir command in Linux allows the user to create directories.  
Syntax:

## **mkdir [options...] [directories ...]**



The screenshot shows a Visual Studio Code window with a terminal open. The terminal is running a PowerShell session. The user has entered the command `mkdir newPractical` in the directory `C:\Users\Raj\Desktop\projects`. The output shows the directory details for `newPractical`.

```
PS C:\Users\Raj\Desktop\projects> mkdir newPractical

Directory: C:\Users\Raj\Desktop\projects

Mode                LastWriteTime         Length Name
----                -
d-----          27-05-2021    11:05         newPractical

PS C:\Users\Raj\Desktop\projects> 
```

### **vii. rmdir**

**The rmdir command removes the directory, specified by the Directory parameter, from the system.**

### **Syntax:**

**rmdir [options...] [directories ...]**

```

Select Windows PowerShell (x86)
d----- 27-05-2021 11:19          projects
d----- 16-04-2021 12:53              SE practical
-a----- 08-04-2021 15:32      162267 190163116003_AWP.pdf
-a----- 08-04-2021 15:33      141608 190163116003_AWP2.pdf
-a----- 08-04-2021 15:30      224055 190163116003_AWP_practical-exam.pdf
-a----- 05-09-2020 12:24      471214 190163116003_CHAVDA RAJ.pdf
-a----- 09-04-2021 15:17      419467 190163116003_Practical-1.pdf
-a----- 09-04-2021 15:26      348697 190163116003_Practical-2.pdf
-a----- 09-04-2021 15:22      238223 190163116003_Practical-3.pdf
-a----- 07-04-2021 13:59      281700 190163116003_practical_exam.pdf
-a----- 23-04-2021 17:34      7630553 190163116013_SE_Assignment-2.pdf
-a----- 11-09-2020 13:11      1320  Cisco Packet Tracer.lnk
-a----- 02-09-2020 16:56      420  clock.html
-a----- 15-03-2021 11:48      318  dates.html
-a----- 03-12-2020 19:34      1263  Firefox.lnk
-a----- 27-11-2020 00:54      76542  group list.pdf
-a----- 26-01-2021 17:06      499  hello.html
-a----- 24-05-2021 18:07      145647 keyboard-shortcuts-windows.pdf
-a----- 29-10-2020 19:26      300  login.html
-a----- 10-04-2021 18:24      1081064 MAJD.pdf
-a----- 27-11-2020 01:53      9229306 Mini project-2.zip
-a----- 27-11-2020 01:47      3289778 mini-project ppt.pptx
-a----- 06-09-2020 16:35      1036  Nmap - Zenmap GUI.lnk
-a----- 27-11-2020 01:51      1447203 output.pdf
-a----- 29-12-2020 14:27      196  prac-1.css
-a----- 29-12-2020 14:41      1450  prac-1.html
-a----- 17-08-2020 17:30      404736 PRACTICAL-exam.pdf
-a----- 09-09-2020 15:12      50292  PRITESH PATEL.pdf
-a----- 22-05-2021 14:47      341006 Raj Chavda_Fresher.pdf
-a----- 03-12-2020 19:49      2208550 scholarship-2020.pdf
-a----- 16-02-2021 16:55      117102 sem-6 tu.fee.pdf
-a----- 26-05-2021 17:11      138  SUMMER-INTERNSHIP.txt
-a----- 22-04-2021 18:06      1929  This PC.lnk
-a----- 01-03-2021 20:14      2695  WordPress.com.lnk

PS C:\Users\Raj\Desktop> rmdir clock.html
PS C:\Users\Raj\Desktop> ls

Directory: C:\Users\Raj\Desktop

Mode                LastWriteTime         Length Name
----                -
d----- 27-05-2021 11:33             1
d----- 27-05-2021 11:33            1313
d----- 27-05-2021 11:33             2
d----- 27-05-2021 11:33             3
d----- 27-05-2021 11:33            31

```

### viii. touch

**touch** — The touch command is used to create a file. It can be anything, from an empty txt file to an empty zip file. For example, “touch new.txt”.

**Syntax:** touch file\_name

- ix. **man & --help** man command in Linux is used to display the user manual of any command that we can run on the terminal. It provides a detailed view of the command which includes NAME, SYNOPSIS, DESCRIPTION, OPTIONS, EXIT STATUS, RETURN VALUES, ERRORS, FILES, VERSIONS, EXAMPLES, AUTHORS and SEE ALSO.

The screenshot shows a Visual Studio Code window with a terminal open. The terminal title is '1: powershell'. The command prompt is 'PS C:\Users\Raj\Desktop\projects> man cd'. The output shows the help for the 'cd' command, including its name, syntax, aliases, and remarks. The syntax section lists three ways to use 'cd': with a path, with a literal path, and with a stack name. The aliases section lists 'sl', 'cd', and 'chdir'. The remarks section explains that the help is partial and provides instructions on how to get the full help online.

```

NAME
    Set-Location

SYNTAX
    Set-Location [[-Path] <string>] [-PassThru] [-UseTransaction] [<CommonParameters>]

    Set-Location -LiteralPath <string> [-PassThru] [-UseTransaction] [<CommonParameters>]

    Set-Location [-PassThru] [-StackName <string>] [-UseTransaction] [<CommonParameters>]

ALIASES
    sl
    cd
    chdir

REMARKS
    Get-Help cannot find the Help files for this cmdlet on this computer. It is displaying only partial help.
    -- To download and install Help files for the module that includes this cmdlet, use Update-Help.
    -- To view the Help topic for this cmdlet online, type: "Get-Help Set-Location -Online" or
       go to https://go.microsoft.com/fwlink/?LinkID=113397.

PS C:\Users\Raj\Desktop\projects>

```

#### x. **cp**

**cp** stands for copy. This command is used to copy files or group of files or directory. It creates an exact image of a file on a disk with different file name. **cp** command require at least two filenames in its arguments.

**Syntax: \$ cp [OPTION] Source Destination**

#### xi. **mv** **mv** stands for move. **mv** is used to move one or more files or directories from one place to another in a file system like UNIX.

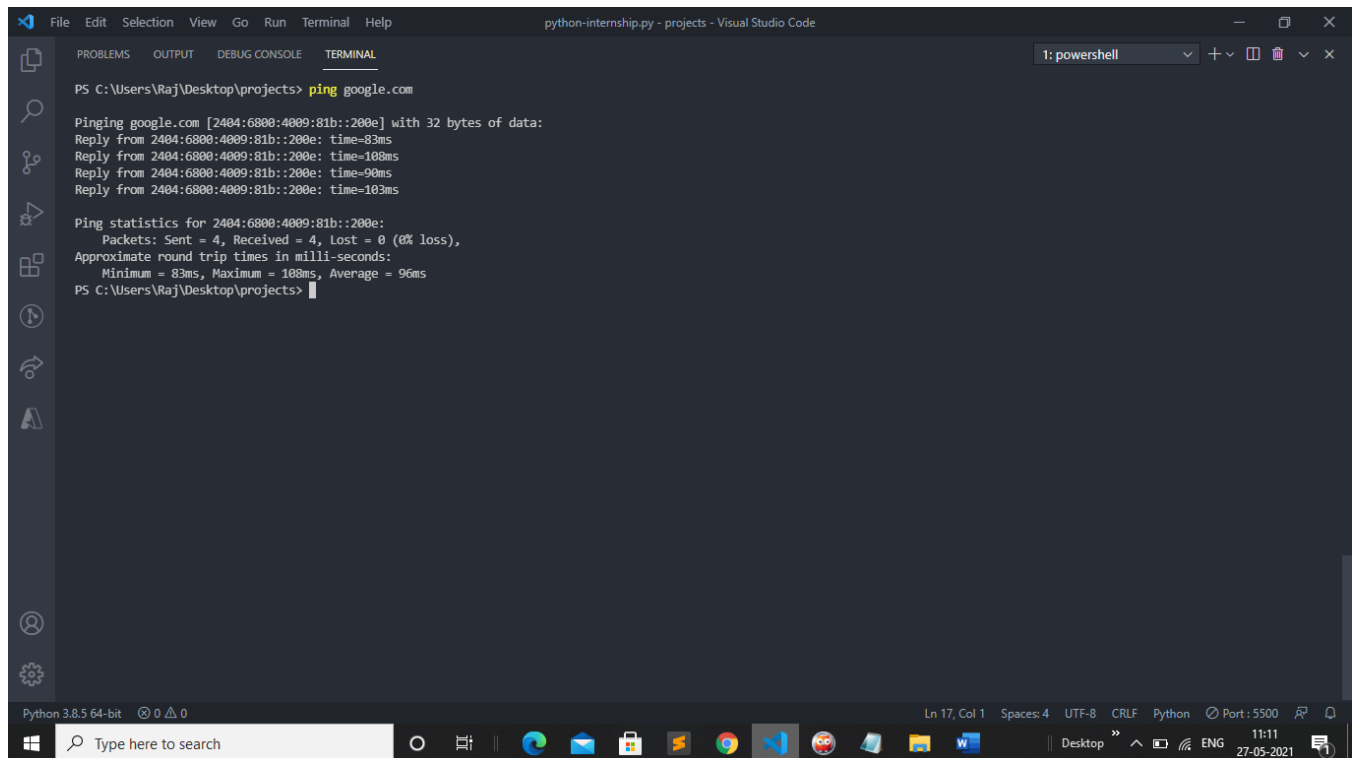
**Syntax: \$ mv [Option] source destination**

#### xii. **locate** **locate** command in Linux is used to find the files by name.

**Syntax: \$ locate [OPTION]... PATTERN...**

#### xiii. **ping**

The Linux **ping** command is a simple utility used to check whether a network is available and if a host is reachable. With this command, you can test if a server is up and running. It also helps with troubleshooting various connectivity issues.

A screenshot of the Visual Studio Code interface. The terminal window is open, showing a PowerShell session. The user has entered the command 'ping google.com'. The output shows four successful replies from the IP address 2404:6800:4009:81b::200e with varying response times (83ms, 108ms, 90ms, 103ms). Below the replies, the ping statistics are displayed: 4 packets sent, 4 received, 0% loss, and an average round trip time of 96ms. The status bar at the bottom indicates the file is 'python-internship.py' in the 'projects' folder, using Python 3.8.5 64-bit, with a UTF-8 encoding and CRLF line endings. The system tray shows the date as 27-05-2021 and time as 11:11.

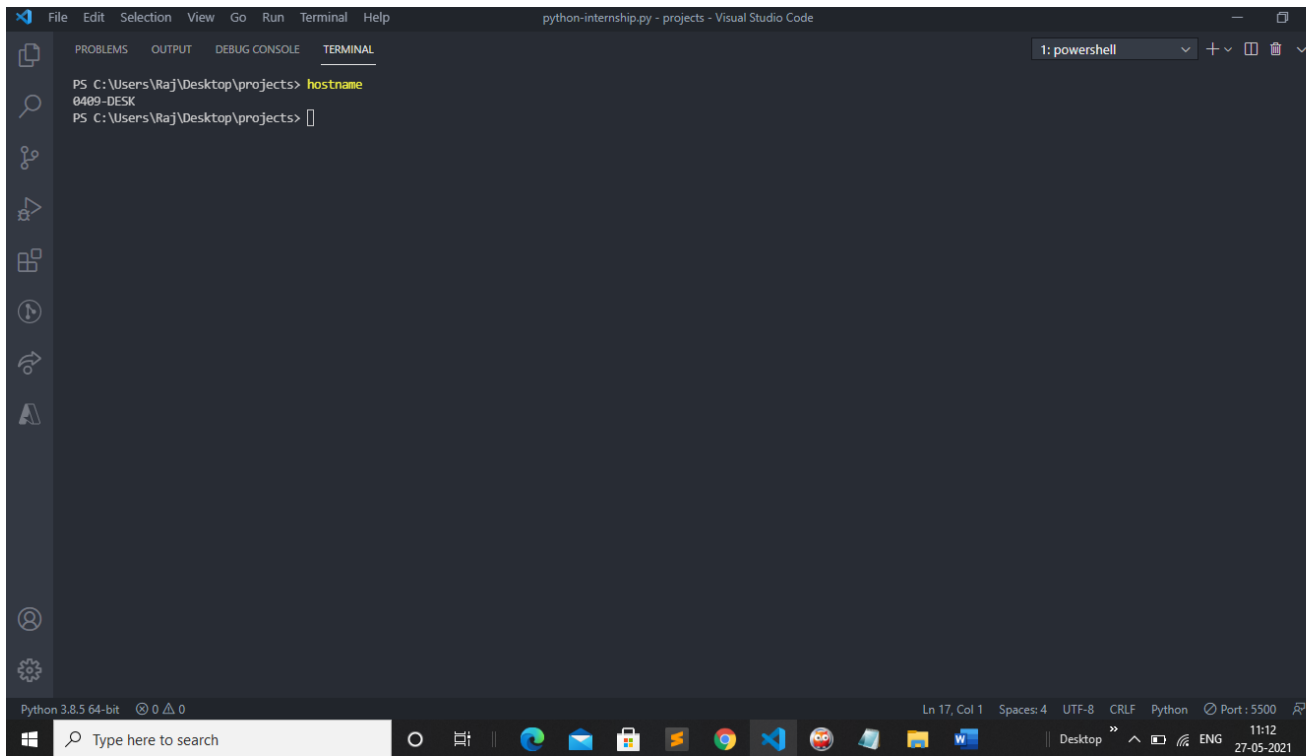
```
File Edit Selection View Go Run Terminal Help python-internship.py - projects - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 1: powershell
PS C:\Users\Raj\Desktop\projects> ping google.com

Pinging google.com [2404:6800:4009:81b::200e] with 32 bytes of data:
Reply from 2404:6800:4009:81b::200e: time=83ms
Reply from 2404:6800:4009:81b::200e: time=108ms
Reply from 2404:6800:4009:81b::200e: time=90ms
Reply from 2404:6800:4009:81b::200e: time=103ms

Ping statistics for 2404:6800:4009:81b::200e:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 83ms, Maximum = 108ms, Average = 96ms
PS C:\Users\Raj\Desktop\projects>
```

- xiv.      hostname** hostname command in Linux is used to obtain the DNS (Domain Name System) name and set the system's hostname or NIS(Network Information System) domain name. A hostname is a name which is given to a computer and it attached to the network. Its main purpose is to uniquely identify over a network.

**Syntax:** \$ hostname -[option] [file]



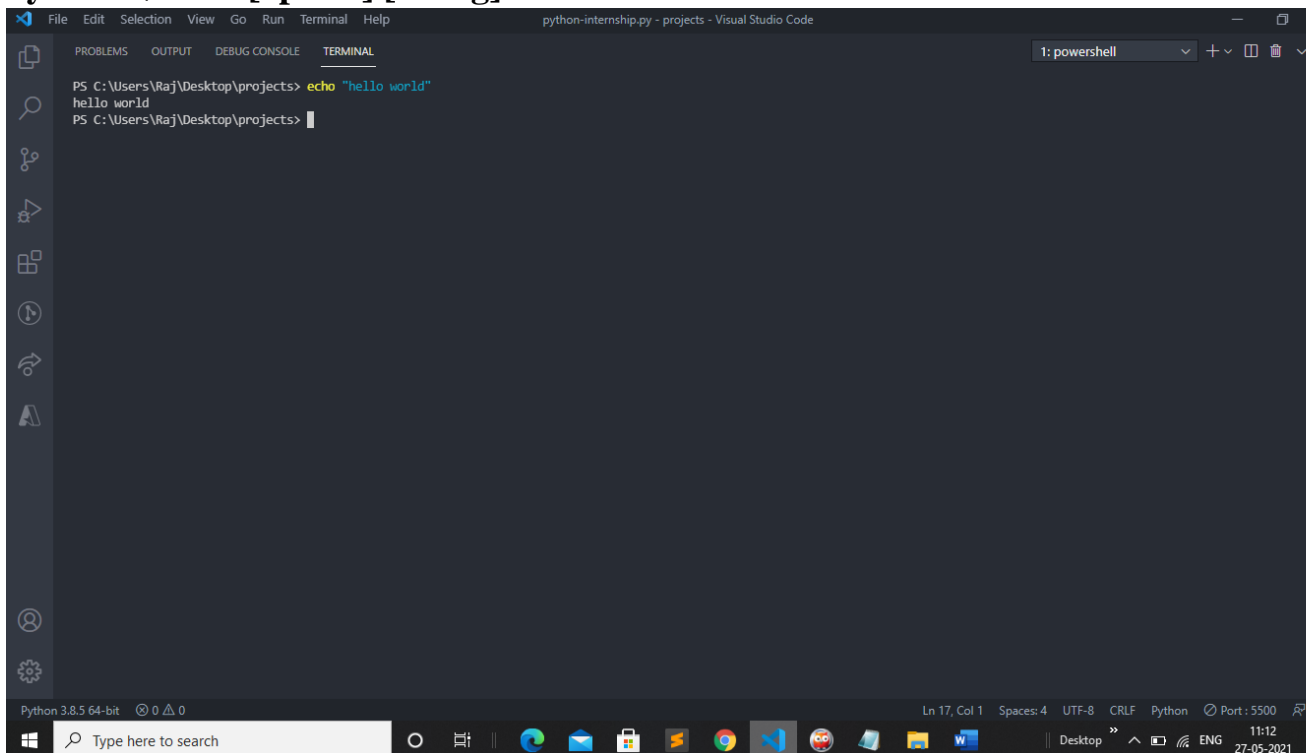
A screenshot of the Visual Studio Code interface. The terminal window is open, showing a PowerShell prompt. The user has entered the command `hostname`, and the output is `0409-DESK`. The terminal title bar indicates the file `python-internship.py` is open in the `projects` folder. The status bar at the bottom shows the Python version as 3.8.5 64-bit and the current file encoding as UTF-8.

```
PS C:\Users\Raj\Desktop\projects> hostname
0409-DESK
PS C:\Users\Raj\Desktop\projects>
```

## XV. echo

**echo command in Linux is used to display line of text/string that are passed as an argument. This is a built-in command that is mostly used in shell scripts and batch files to output status text to the screen or a file.**

**Syntax: \$ echo [option] [string]**



A screenshot of the Visual Studio Code interface. The terminal window is open, showing a PowerShell prompt. The user has entered the command `echo "hello world"`, and the output is `hello world`. The terminal title bar indicates the file `python-internship.py` is open in the `projects` folder. The status bar at the bottom shows the Python version as 3.8.5 64-bit and the current file encoding as UTF-8.

```
PS C:\Users\Raj\Desktop\projects> echo "hello world"
hello world
PS C:\Users\Raj\Desktop\projects>
```

**xvi. cat**

Cat(concatenate) command is very frequently used in Linux. It reads data from the file and gives their content as output. It helps us to create, view, concatenate files. So let us see some frequently used cat commands.

**xvii. sudo** sudo (Super User DO) command in Linux is generally used as a prefix of some command that only superuser are allowed to run. If you prefix “sudo” with any command, it will run that command with elevated privileges or in other words allow a user with proper permissions to execute a command as another user, such as the superuser.

**xviii. History** history command displays all previously used commands since the session was started.

**Syntax- \$ history**

```

PS C:\Users\Raj\Desktop\projects> history

Id CommandLine
-----
1 python-internship.py
2 python-internship.py
3 python python-internship.py
4 python python-internship.py
5 python python-internship.py
6 python python-internship.py
7 python python-internship.py
8 python python-internship.py
9 python python-internship.py
10 python python-internship.py
11 python python-internship.py2
12 python python-internship.py
13 python python-internship.py
14 python python-internship.py
15 python python-internship.py
16 python python-internship.py
17 python python-internship.py
18 python python-internship.py
19 python python-internship.py
20 python python-internship.py
21 python python-internship.py
22 python python-internship.py
23 python python-internship.py
24 python python-internship.py
25 node to-do.js
26 node to-do.js
27 node to-do.js
28 node to-do.js
29 node to-do.js
30 node to-do.js
31 node to-do.js
32 node to-do.js
33 node to-do.js
  
```

**xix. cat** cat command cat (concatenate) command reads the data from the file and displays the content of the file as an output on the terminal.

**Syntax: \$ cat [option] file\_name**

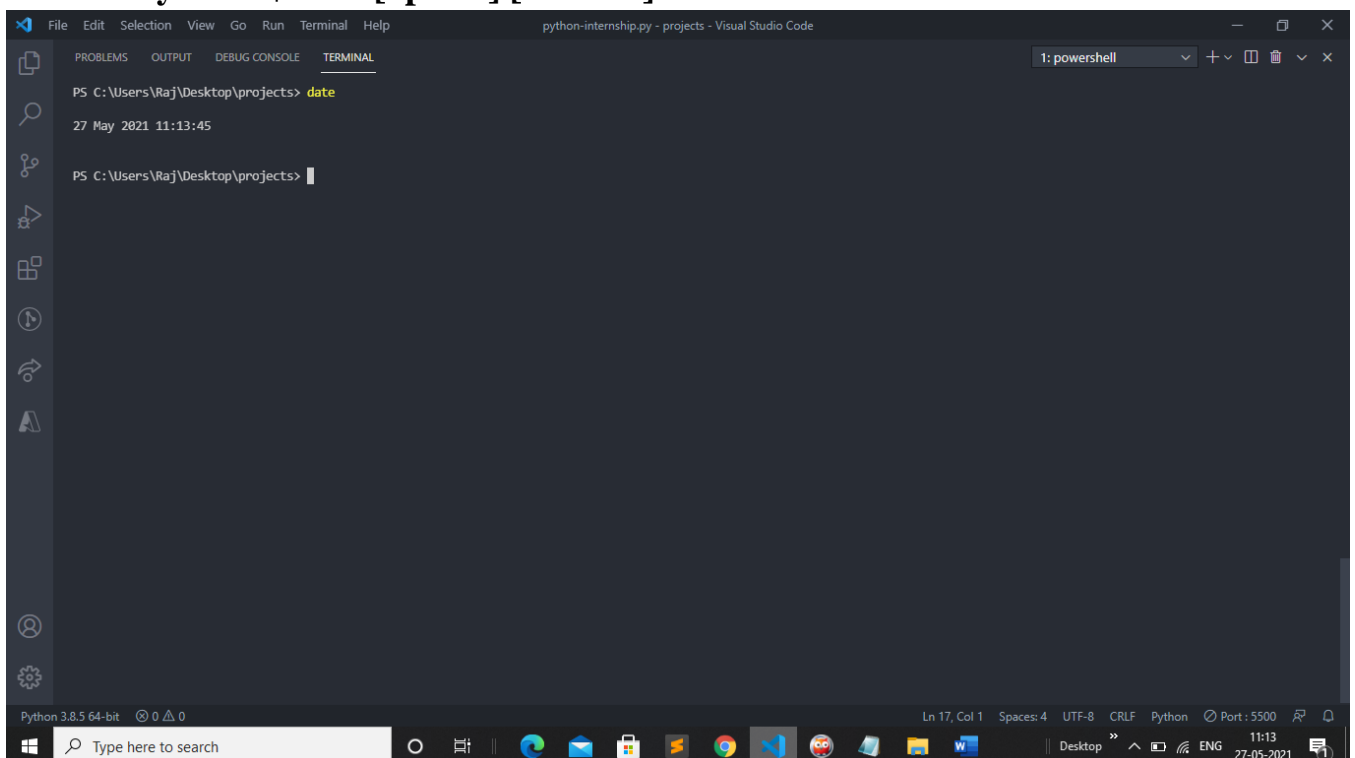


```
Windows PowerShell (x86)
PS C:\Users\Raj\Desktop\projects> cat abc.txt
hello world
PS C:\Users\Raj\Desktop\projects>
```

## xx. date

The 'date' command is used to display the current date and time of the system.

**Syntax: \$ date [option] [Format]**



```
python-internship.py - projects - Visual Studio Code
1: powershell
PS C:\Users\Raj\Desktop\projects> date
27 May 2021 11:13:45
PS C:\Users\Raj\Desktop\projects>
```

## **(2) Data structures of python with methods.**

**Data Structure- There are Four Types of Data Structure.**

- 1. List**
- 2. Tuple**
- 3. Set**
- 4. Dictionary**

➤ **Lists are used to store multiple items in a single variable.**

➤ **Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are Tuple, Set, and Dictionary, all with different qualities and usage.**

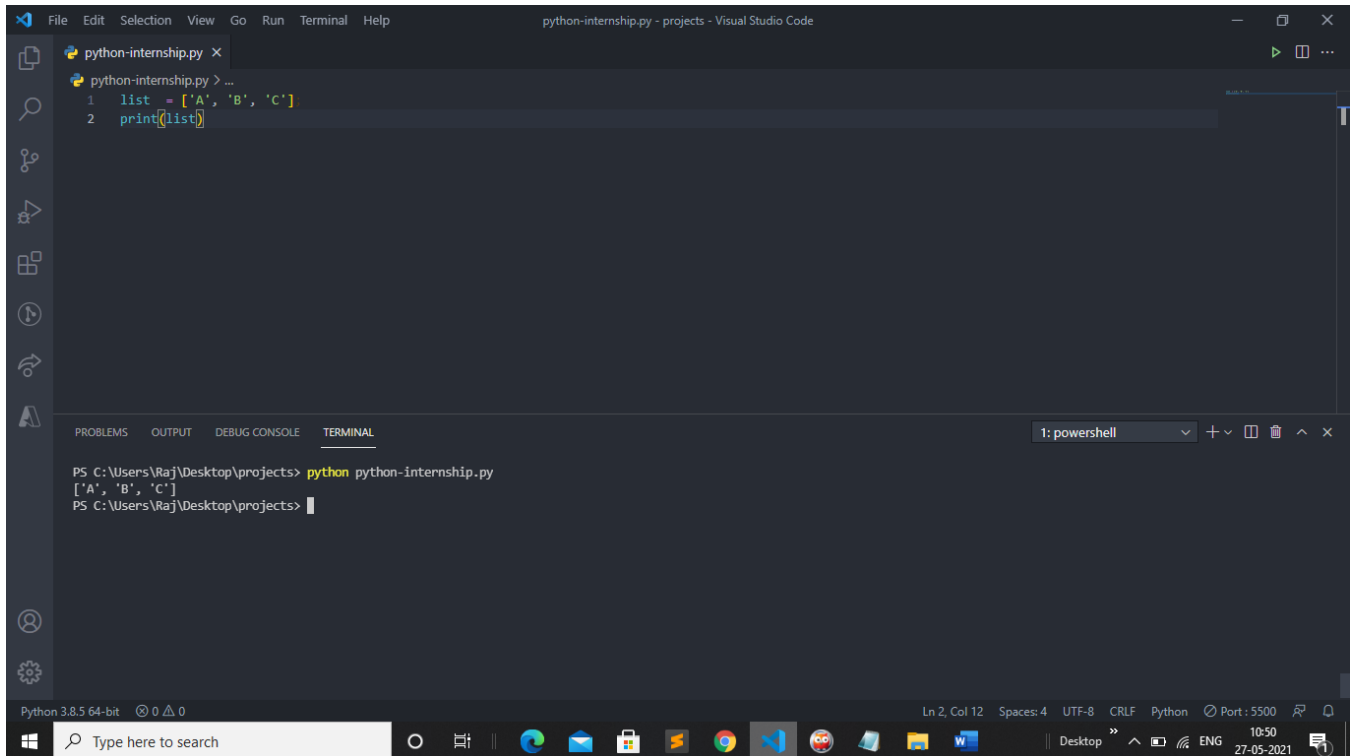
➤ **Lists are created using square brackets:**

```
list = ["A", "B", "C"]
```

**Syntax & Example**

```
list = ["A", "B", "C"] print(list)
```

## Output:-



The screenshot shows the Visual Studio Code editor with a file named `python-internship.py` open. The code in the editor is:

```
1 list = ['A', 'B', 'C']
2 print(list)
```

The terminal at the bottom shows the command `python python-internship.py` being executed, resulting in the output `['A', 'B', 'C']`.

## List Item

- List items are ordered, changeable, and allow duplicate values.
- List items are indexed, the first item has index [0], the second item has index [1] etc.

## type()

- From Python's perspective, lists are defined as objects with the data type

'list':

## Example

```
list = ["A", "B", "C"]
```

```
print(type(mylist))
```

## Set:-

- Sets are used to store multiple items in a single variable.
- Set is one of 4 built-in data types in Python used to store collections of data,
- the other 3 are List, Tuple, and Dictionary, all with different qualities and usage.
- A set is a collection which is both unordered and unindexed.

Sets are written with curly brackets.

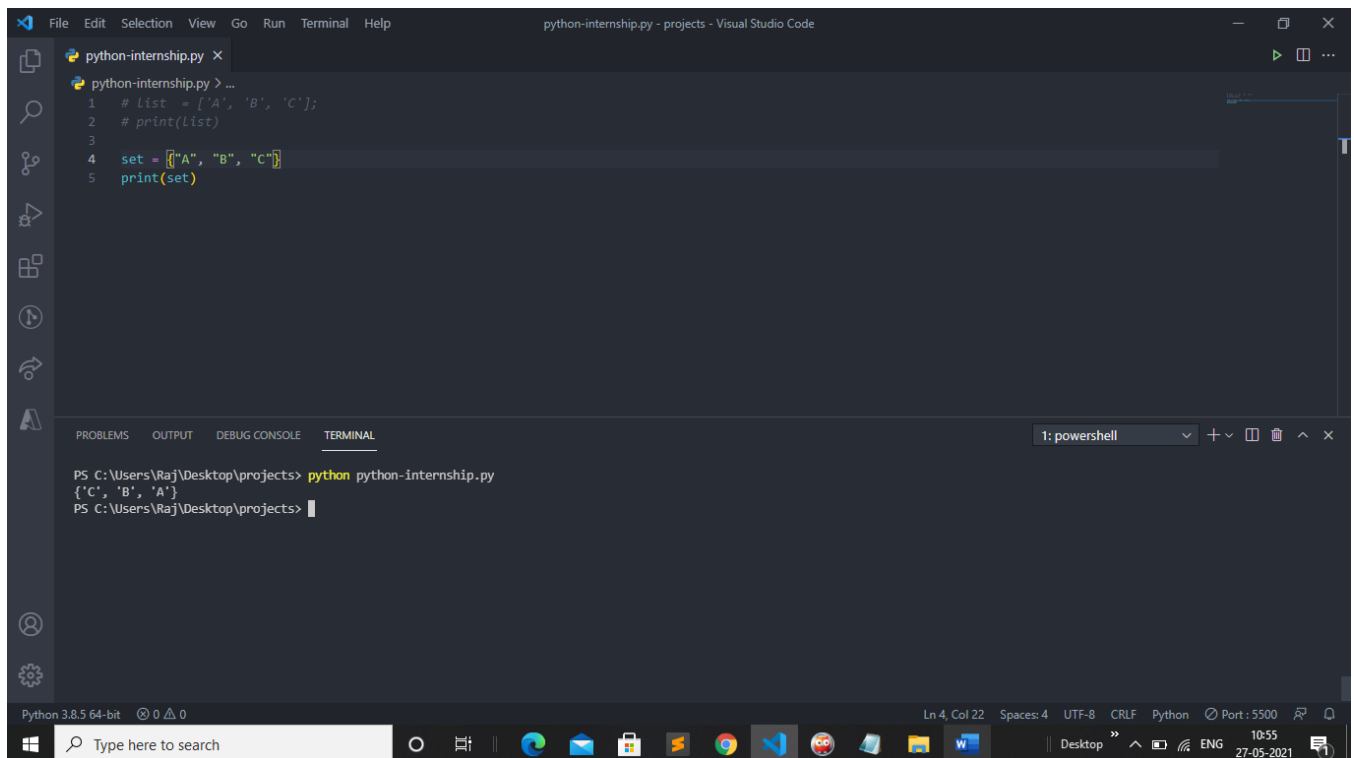
```
set = {"A", "B", "C"}
```

Syntax & Example set =

```
{"A", "B", "C"}
```

```
print(set)
```

## Output-



The screenshot shows the Visual Studio Code editor with a file named `python-internship.py`. The code in the editor is as follows:

```
python-internship.py > ...
1 # list = ['A', 'B', 'C'];
2 # print(list)
3
4 set = {"A", "B", "C"}
5 print(set)
```

The terminal at the bottom shows the command `python python-internship.py` being executed, resulting in the output `{'C', 'B', 'A'}`.

```
PS C:\Users\Raj\Desktop\projects> python python-internship.py
{'C', 'B', 'A'}
PS C:\Users\Raj\Desktop\projects>
```

## Set Items

- Set items are unordered, unchangeable, and do not allow duplicate values.

`type()`

- From Python's perspective, sets are defined as objects with the data type

`'set':`

## Tuple

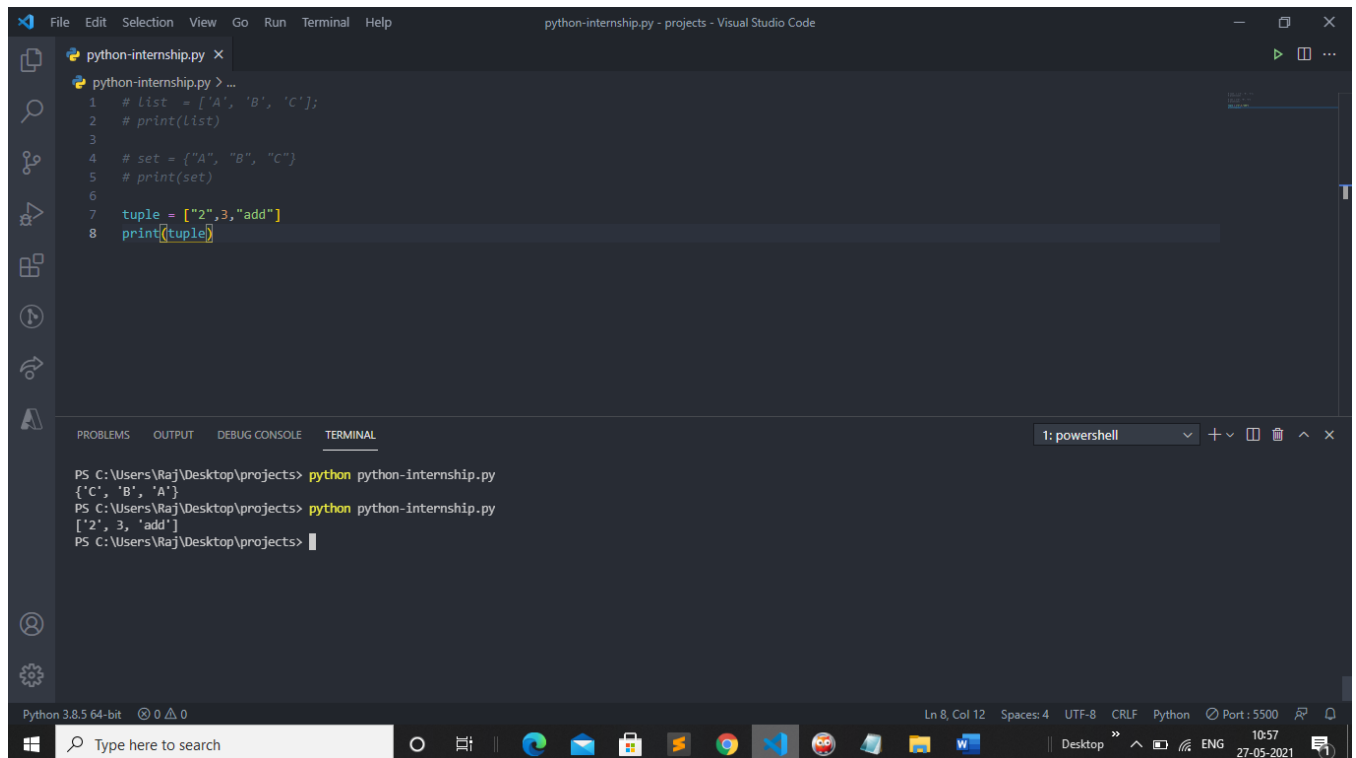
- Tuples are used to store multiple items in a single variable.
- Tuple is one of 4 built-in data types in Python used to store collections of data, the other 3 are List, Set, and Dictionary, all with different qualities and usage.
  - A tuple is a collection which is ordered and unchangeable.
  - Tuples are written with round brackets.

`tuple = ("X", "y", "123")`

### Example

`tuple = ("X", "y", "123") print(tuple)`

## Output-



The screenshot shows the Visual Studio Code editor with a file named `python-internship.py`. The code in the editor is as follows:

```
1 # list = ['A', 'B', 'C'];  
2 # print(list)  
3  
4 # set = {"A", "B", "C"}  
5 # print(set)  
6  
7 tuple = ["2", 3, "add"]  
8 print(tuple)
```

The terminal at the bottom shows the execution of the script using the command `python python-internship.py`. The output of the script is:

```
PS C:\Users\Raj\Desktop\projects> python python-internship.py  
{'C', 'B', 'A'}  
PS C:\Users\Raj\Desktop\projects> python python-internship.py  
['2', 3, 'add']  
PS C:\Users\Raj\Desktop\projects>
```

## Tuple Items

- Tuple items are ordered, unchangeable, and allow duplicate values.
- Tuple items are indexed, the first item has index [0], the second item has index [1] etc.

### type()

- From Python's perspective, tuples are defined as objects with the data type 'tuple':

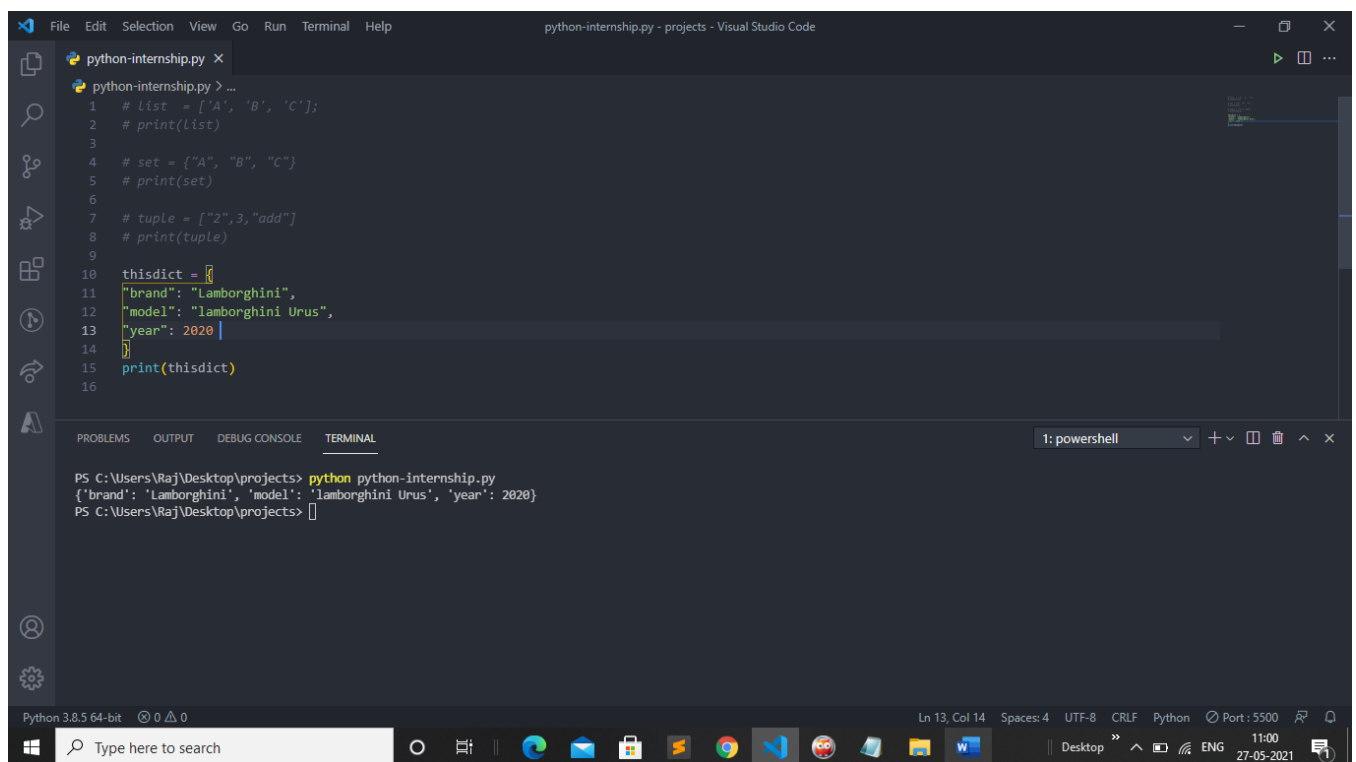
## Dictionary

- Dictionaries are used to store data values in key:value pairs.

- A dictionary is a collection which is ordered\*, changeable and does not allow duplicates.
- Dictionaries are written with curly brackets, and have keys and values
- : Example

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
  
print(thisdict)
```

### Output-



The screenshot shows the Visual Studio Code editor with a file named `python-internship.py`. The code in the editor is as follows:

```
1 # list = ['A', 'B', 'C'];  
2 # print(list)  
3  
4 # set = {"A", "B", "C"}  
5 # print(set)  
6  
7 # tuple = ["2",3,"add"]  
8 # print(tuple)  
9  
10 thisdict = {  
11     "brand": "Lamborghini",  
12     "model": "Lamborghini Urus",  
13     "year": 2020  
14 }  
15 print(thisdict)  
16
```

The terminal at the bottom shows the command `python python-internship.py` being executed, resulting in the output: `{'brand': 'Lamborghini', 'model': 'Lamborghini Urus', 'year': 2020}`.

- When we say that dictionaries are ordered, it means that the items have a defined order, and that order will not change.

- **Unordered means that the items does not have a defined order, you cannot refer to an item by using an index.**

**type()**

- **From Python's perspective, dictionaries are defined as objects with the data type 'dict':**
- **We Can Find Length, Data Type & Not Allowed Duplicate Values in List, Set, Tuple & Dictionary.**