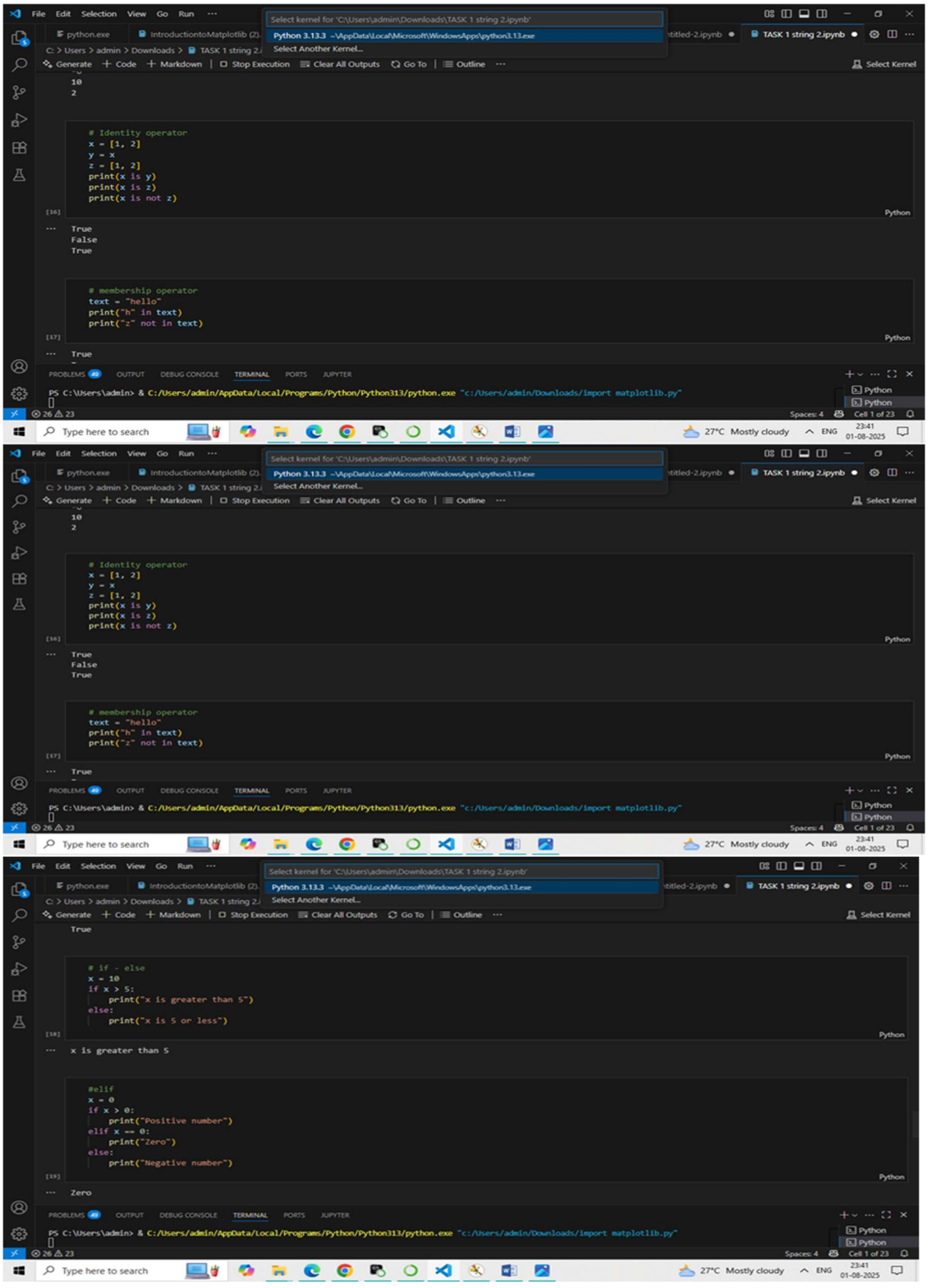
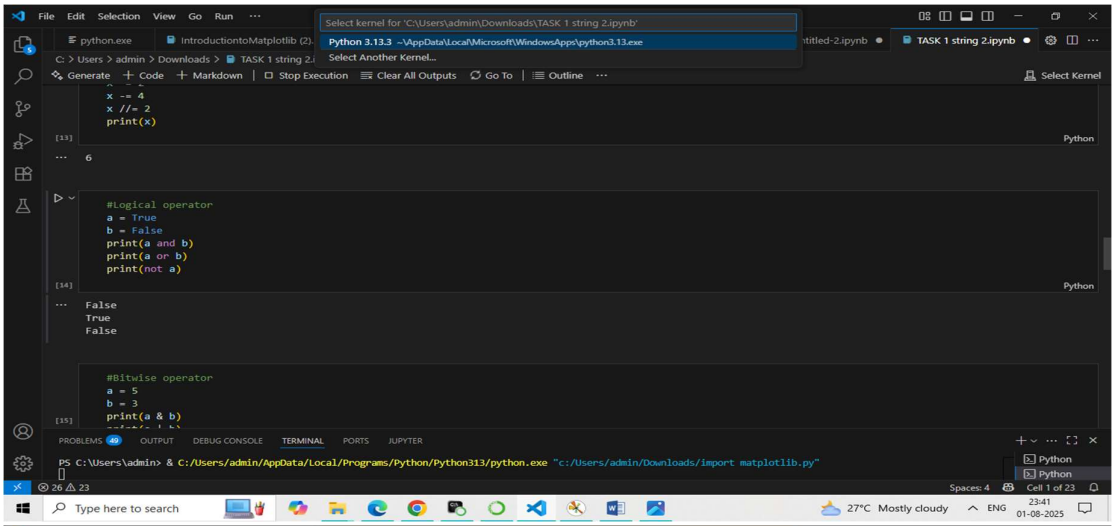
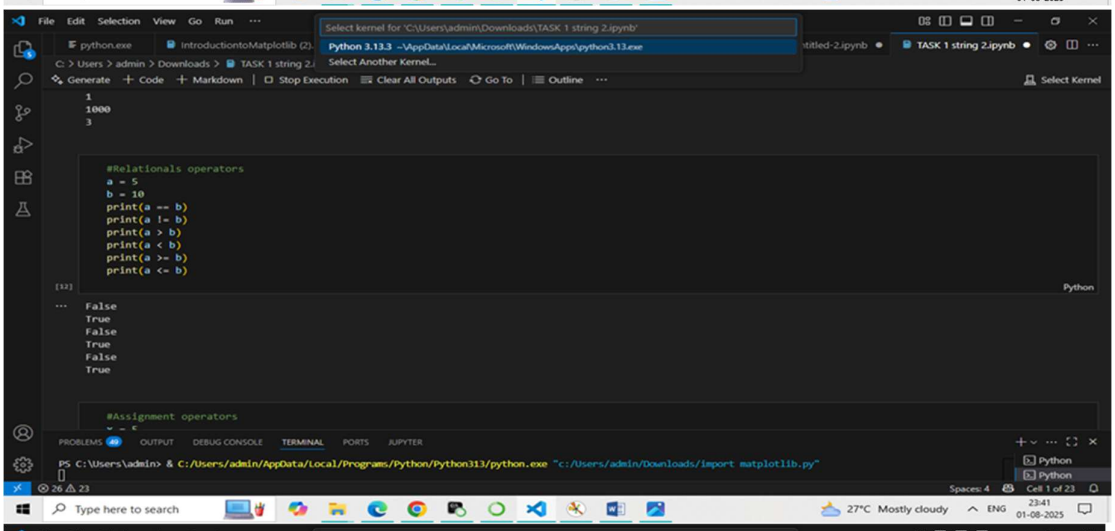
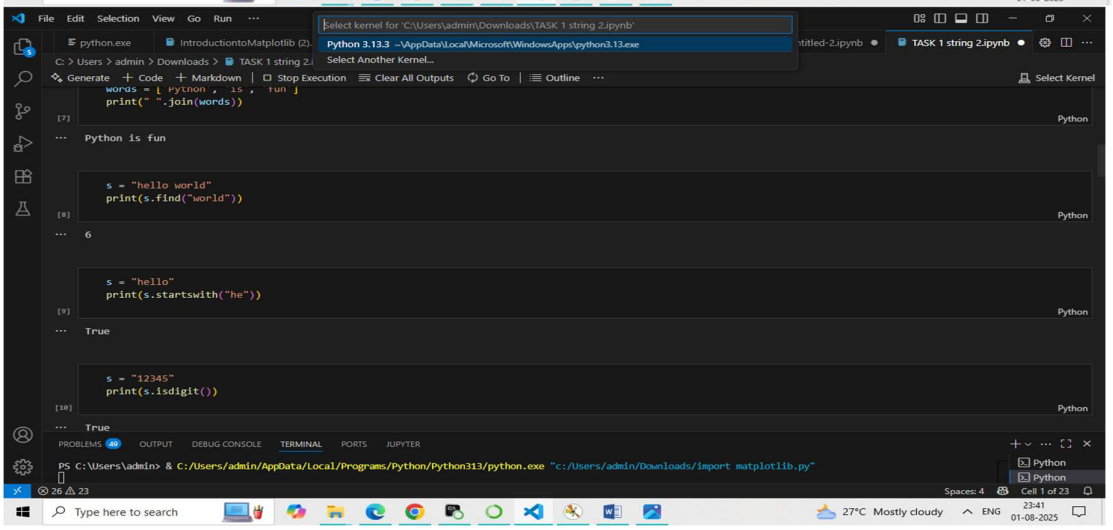
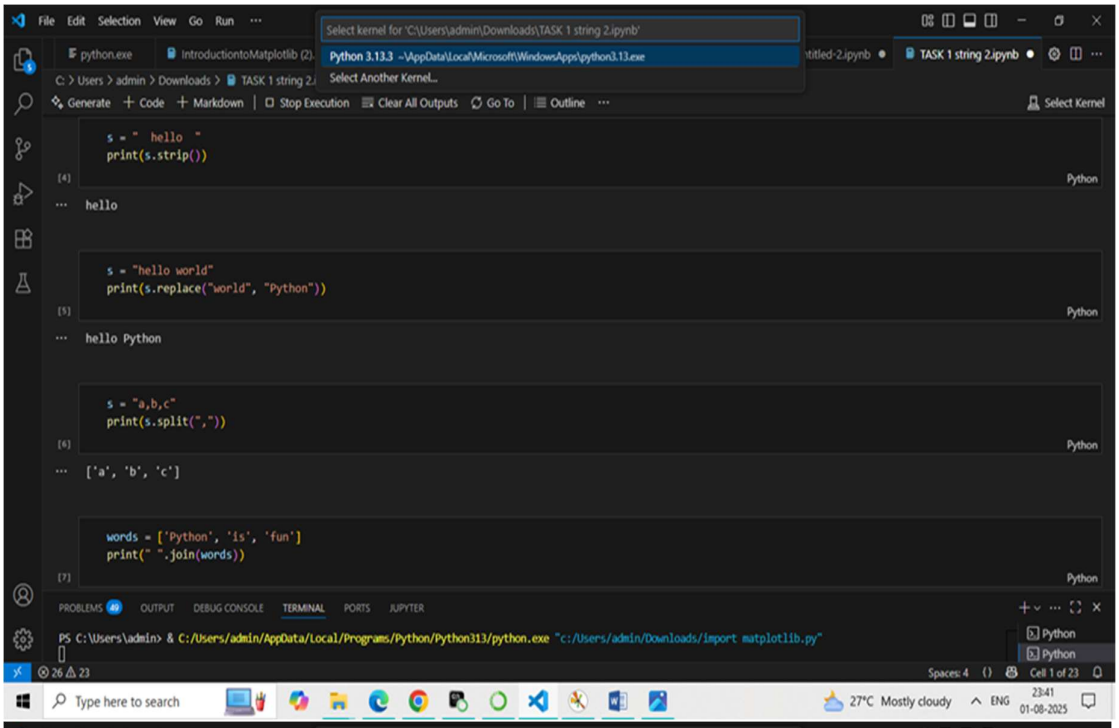
Qno. 1 Programs of string and operators

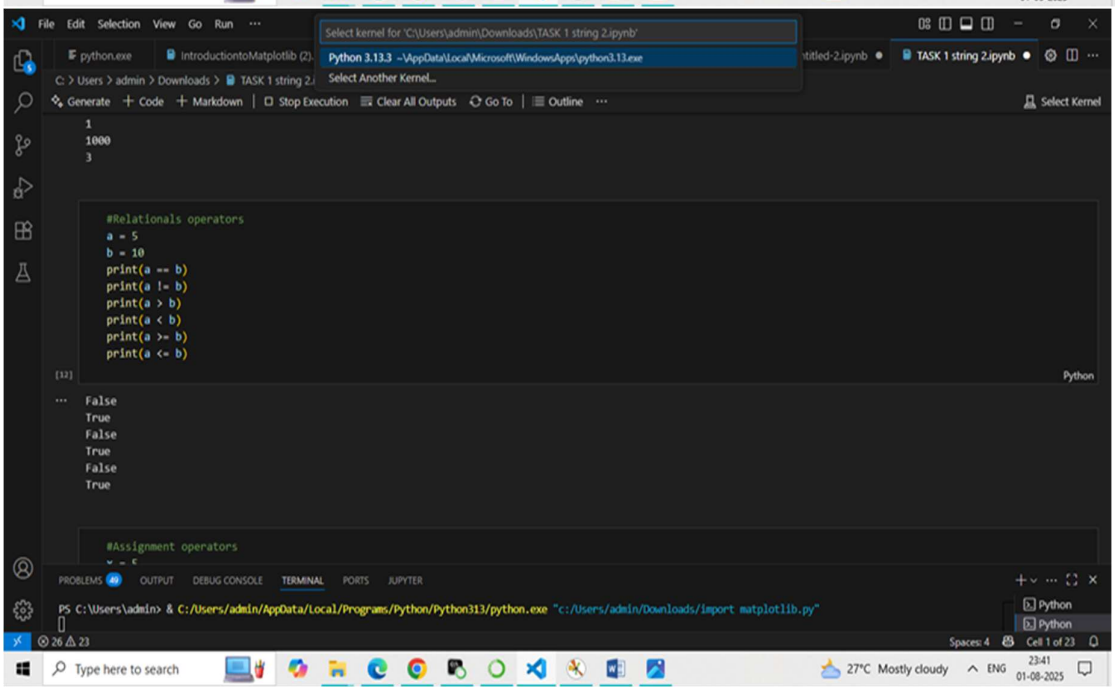



x -= 4
x //= 2
print(x)
6
#Logical operator
a = True
b = False
print(a and b)
print(a or b)
print(not a)
False
True
False
#Bitwise operator
a = 5
b = 3
print(a & b)
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"


1
1000
3
#Relationals operators
a = 5
b = 10
print(a == b)
print(a != b)
print(a > b)
print(a < b)
print(a >= b)
print(a <= b)
False
True
False
True
False
True
#Assignment operators
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"


words = ['Python' , 'is' , 'fun']
print(" ".join(words))
Python is fun
s = "hello world"
print(s.find("world"))
6
s = "hello"
print(s.startswith("he"))
True
s = "12345"
print(s.isdigit())
True
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"


File Edit Selection View Go Run
Select kernel for 'C:\Users\admin\Downloads\TASK 1 string 2.ipynb'
Python 3.13.3 ~\AppData\Local\Microsoft\WindowsApps\python3.13.exe
Select Another Kernel...
TASK 1 string 2.ipynb
Generate Code Markdown Stop Execution Clear All Outputs Go To Outline
Select Kernel
s = " hello "
print(s.strip())
[4]
Python
hello
s = "hello world"
print(s.replace("world", "Python"))
[5]
Python
hello Python
s = "a,b,c"
print(s.split(","))
[6]
Python
['a', 'b', 'c']
words = ['Python', 'is', 'fun']
print(" ".join(words))
[7]
Python
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"
Python
Python
Spaces: 4
Cell 1 of 23
Type here to search
27°C Mostly cloudy
ENG
23:41
01-08-2025


File Edit Selection View Go Run
Select kernel for 'C:\Users\admin\Downloads\TASK 1 string 2.ipynb'
Python 3.13.3 ~\AppData\Local\Microsoft\WindowsApps\python3.13.exe
Select Another Kernel...
TASK 1 string 2.ipynb
Generate Code Markdown Stop Execution Clear All Outputs Go To Outline
Select Kernel
1
1000
3
#Relationals operators
a = 5
b = 10
print(a == b)
print(a != b)
print(a > b)
print(a < b)
print(a >= b)
print(a <= b)
[12]
Python
False
True
False
True
False
True
#Assignment operators
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"
Python
Python
Spaces: 4
Cell 1 of 23
Type here to search
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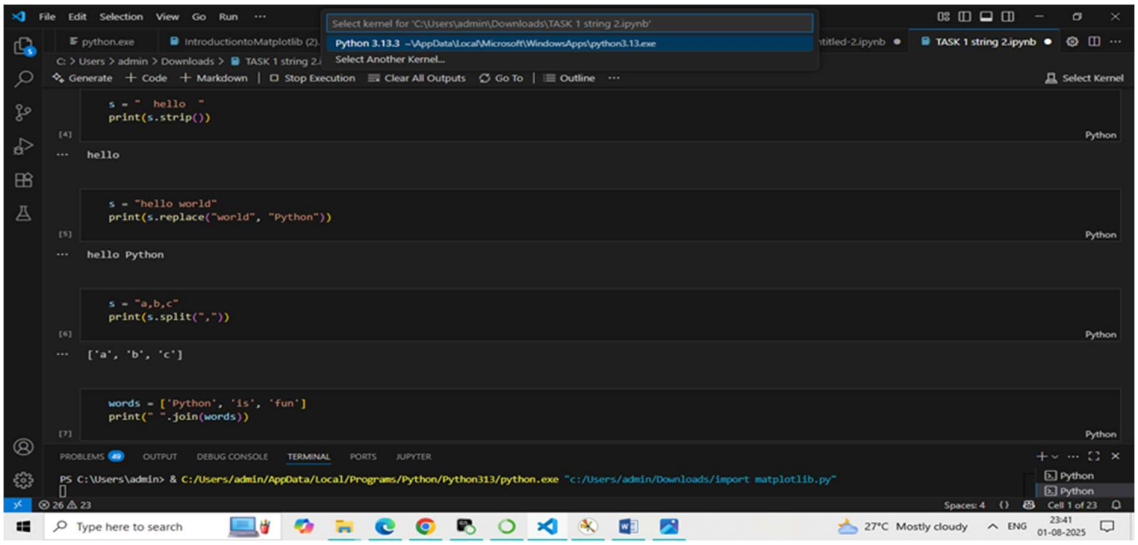
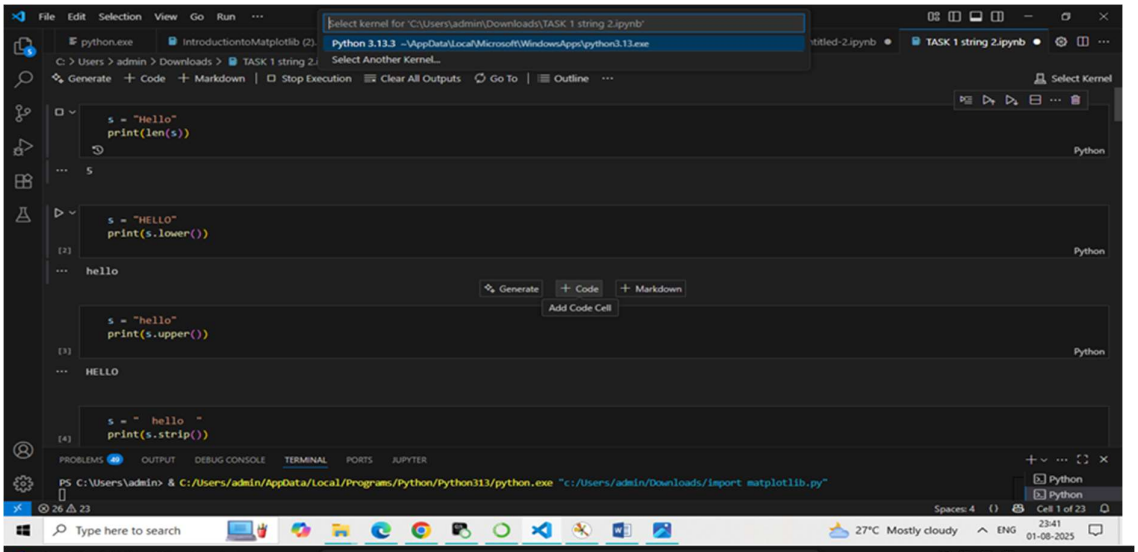
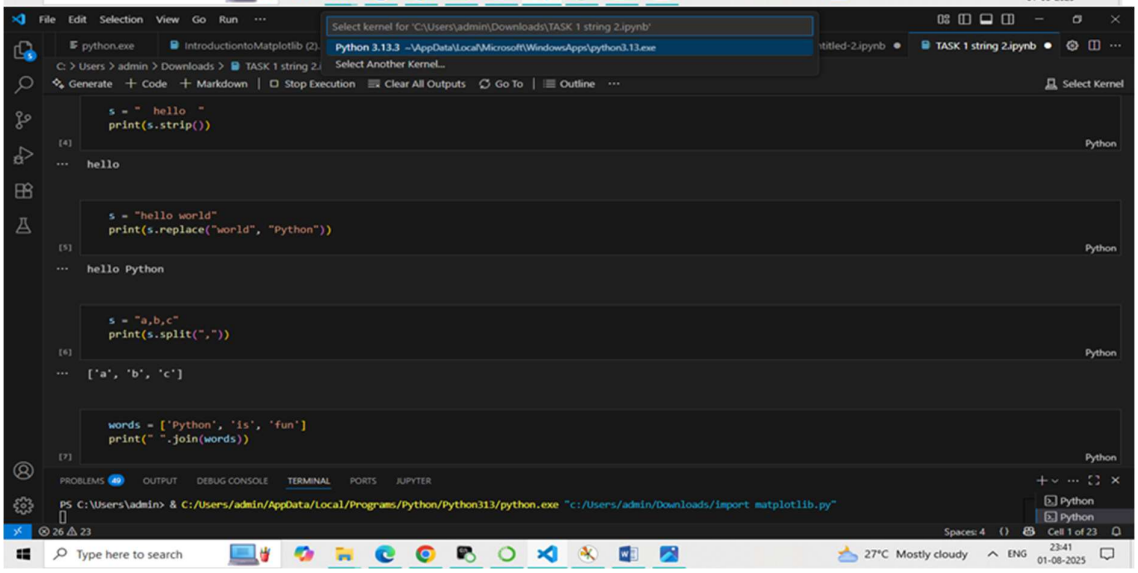
ENG
23:41
01-08-2025


File Edit Selection View Go Run
Select kernel for 'C:\Users\admin\Downloads\TASK 1 string 2.ipynb'
Python 3.13.3 ~\AppData\Local\Microsoft\WindowsApps\python3.13.exe
Select Another Kernel...
TASK 1 string 2.ipynb
Generate Code Markdown Stop Execution Clear All Outputs Go To Outline
Select Kernel
s = " hello "
print(s.strip())
hello
s = "hello world"
print(s.replace("world", "Python"))
hello Python
s = "a,b,c"
print(s.split(","))
['a', 'b', 'c']
words = ['Python', 'is', 'fun']
print(" ".join(words))
PROBLEMS 49 OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"
Type here to search
27°C Mostly cloudy
ENG
23:41
01-08-2025


File Edit Selection View Go Run
Select kernel for 'C:\Users\admin\Downloads\TASK 1 string 2.ipynb'
Python 3.13.3 ~\AppData\Local\Microsoft\WindowsApps\python3.13.exe
Select Another Kernel...
TASK 1 string 2.ipynb
Generate Code Markdown Stop Execution Clear All Outputs Go To Outline
Select Kernel
s = "Hello"
print(len(s))
5
s = "HELLO"
print(s.lower())
hello
Generate Code Markdown
Add Code Cell
s = "hello"
print(s.upper())
HELLO
s = " hello "
print(s.strip())
PROBLEMS 49 OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"
Type here to search
27°C Mostly cloudy
ENG
23:41
01-08-2025


File Edit Selection View Go Run
Select kernel for 'C:\Users\admin\Downloads\TASK 1 string 2.ipynb'
Python 3.13.3 ~\AppData\Local\Microsoft\WindowsApps\python3.13.exe
Select Another Kernel...
TASK 1 string 2.ipynb
Generate Code Markdown Stop Execution Clear All Outputs Go To Outline
Select Kernel
s = " hello "
print(s.strip())
hello
s = "hello world"
print(s.replace("world", "Python"))
hello Python
s = "a,b,c"
print(s.split(","))
['a', 'b', 'c']
words = ['Python', 'is', 'fun']
print(" ".join(words))
PROBLEMS 49 OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
PS C:\Users\admin> & C:/Users/admin/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/admin/Downloads/import matplotlib.py"
Type here to search
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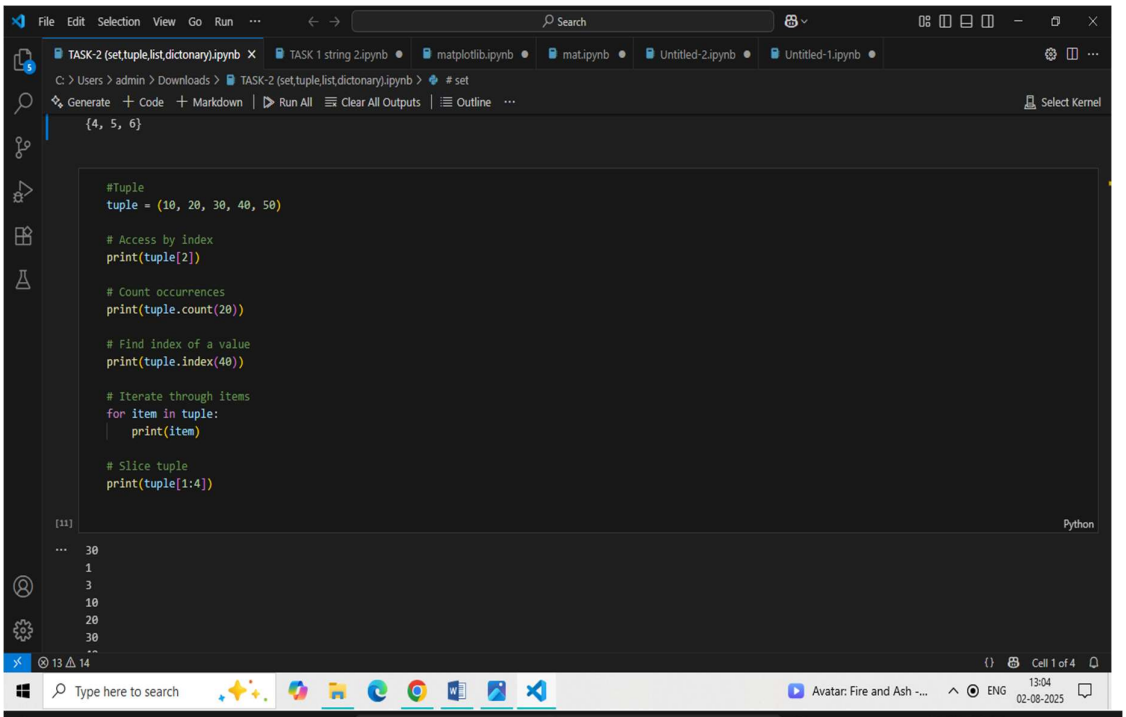
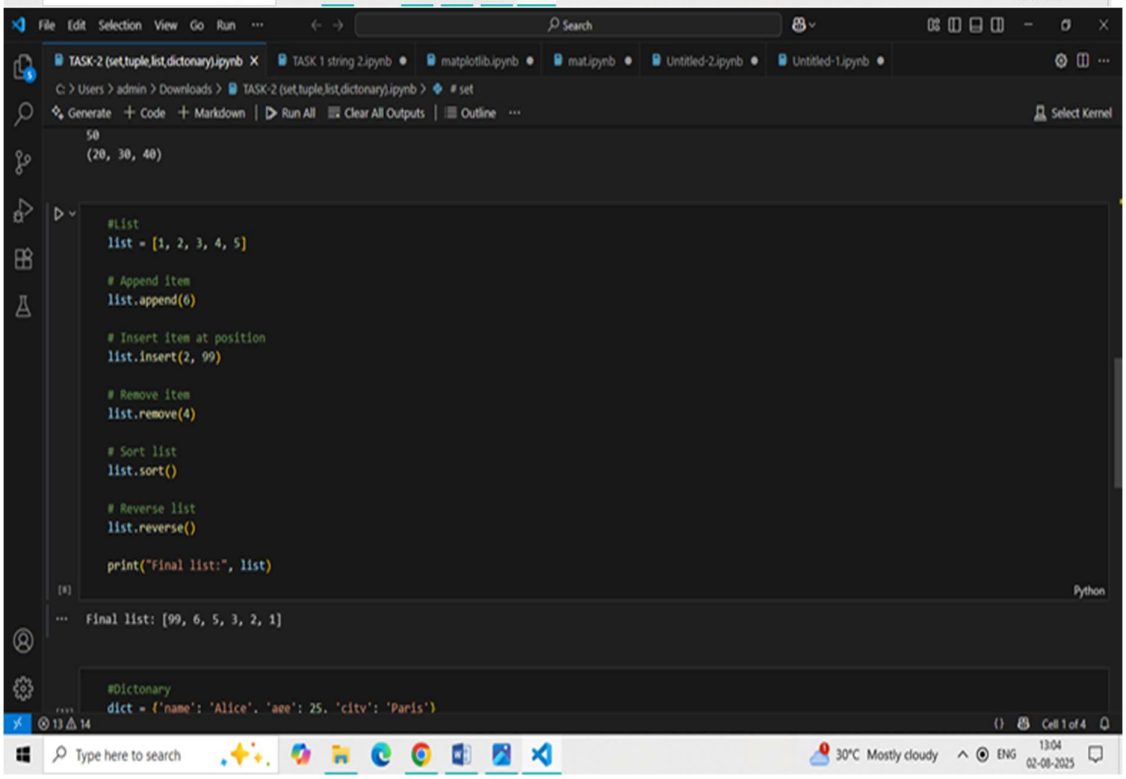
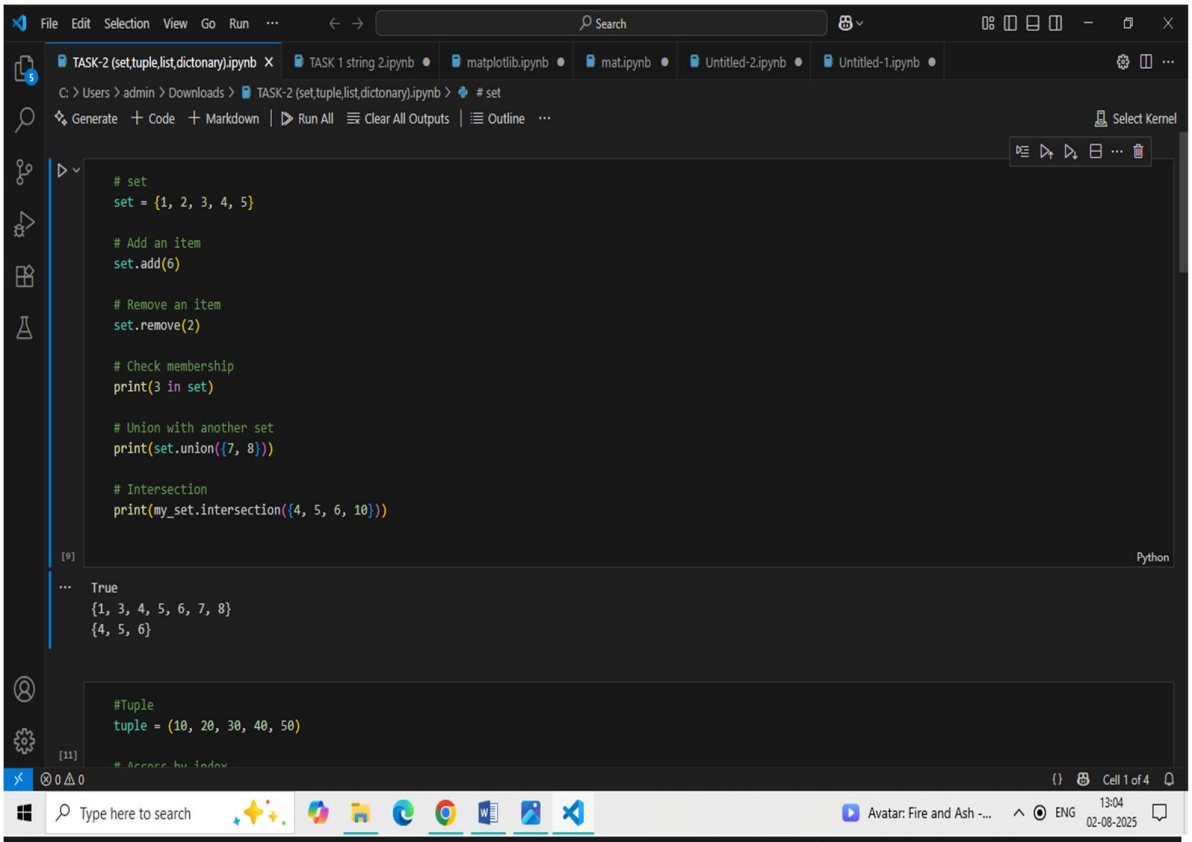
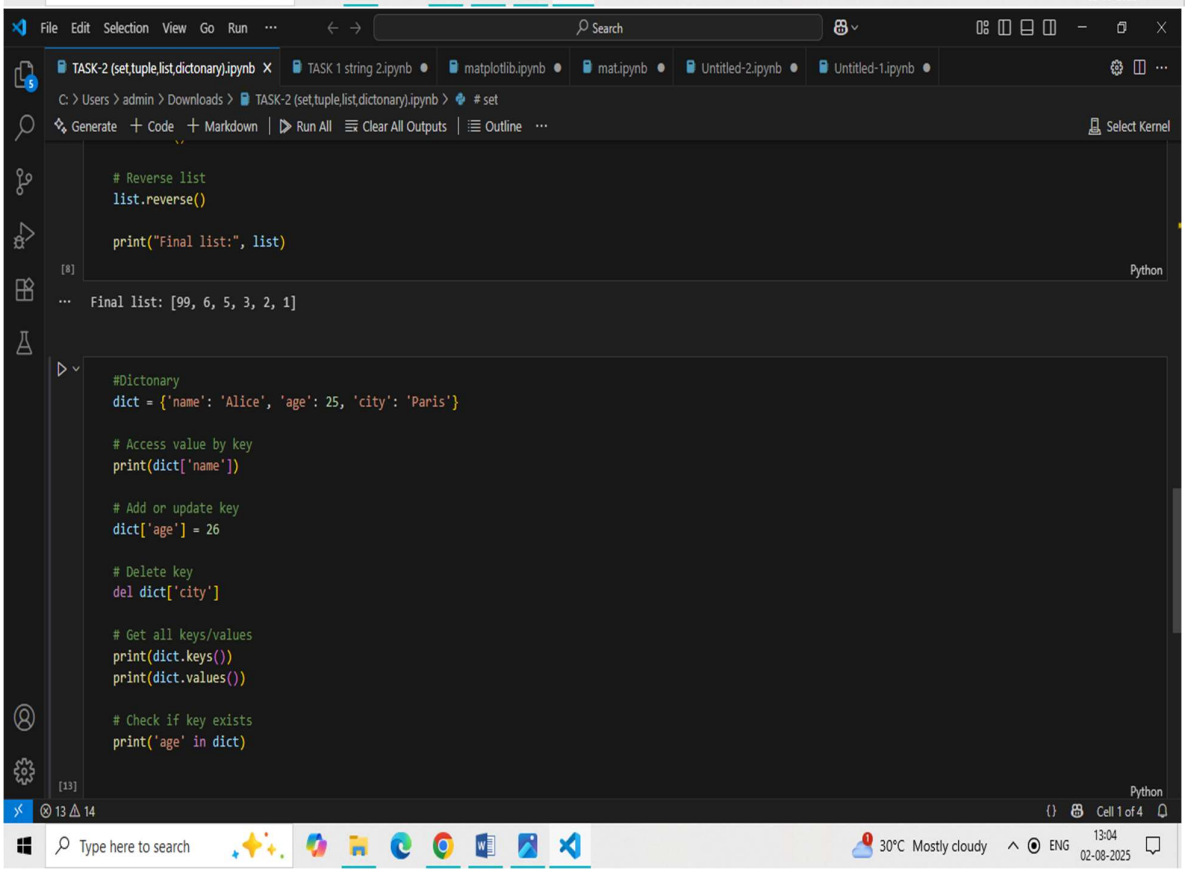
01-08-2025

Qno.2 Sets, tuple, list , dictionary

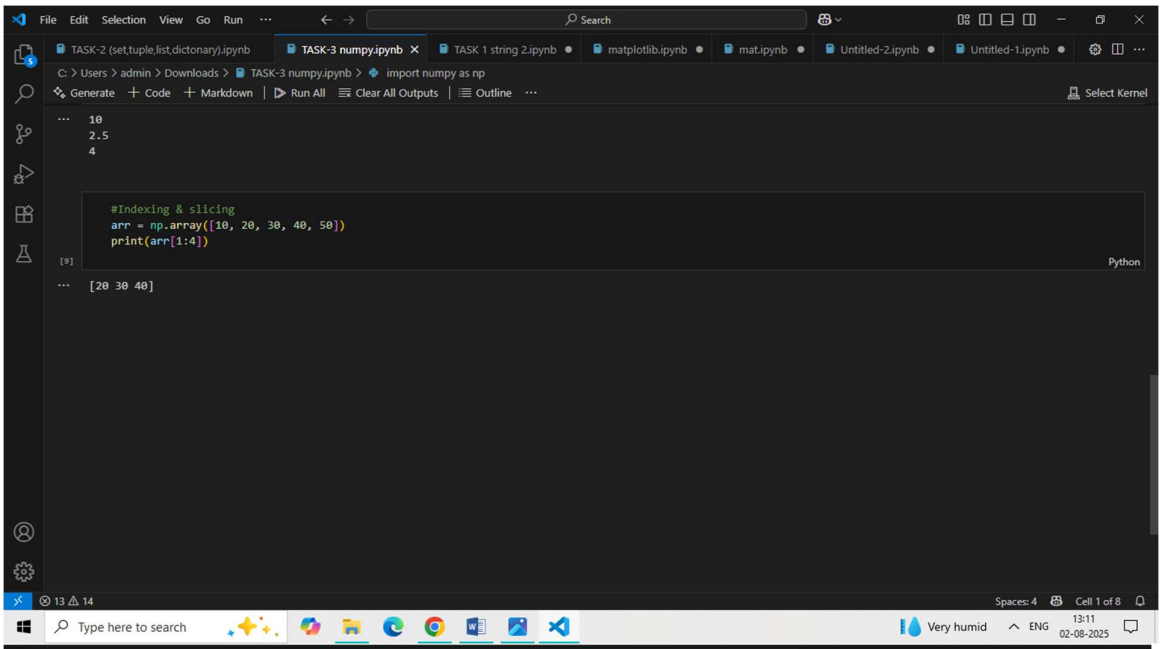


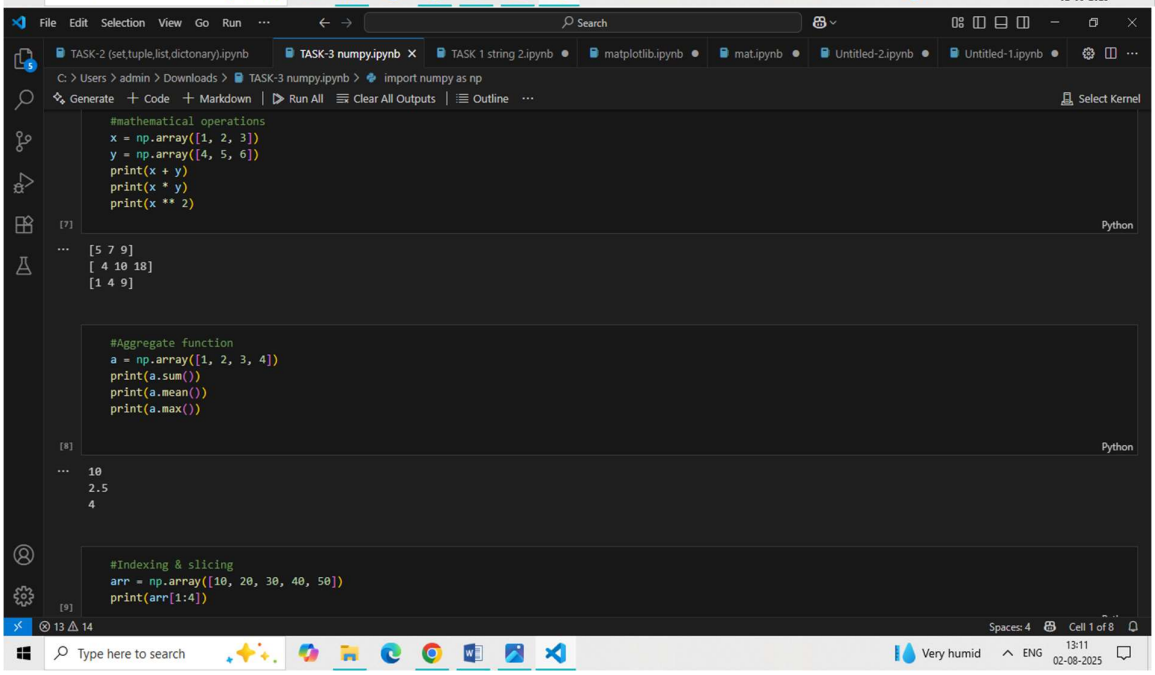


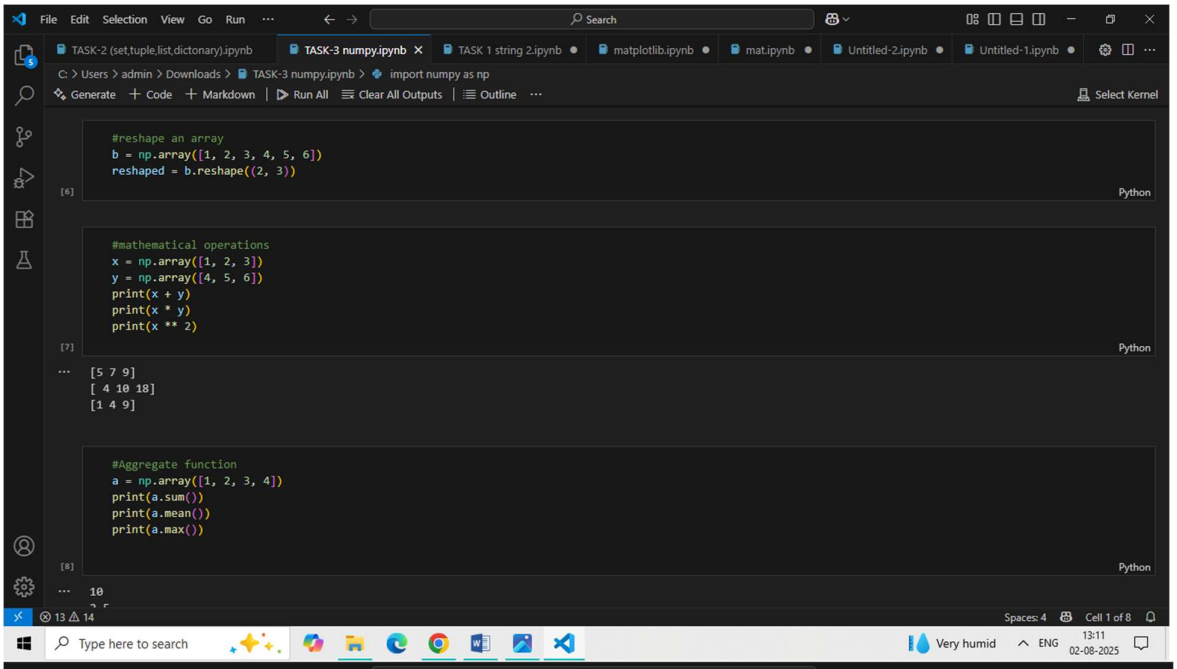

File Edit Selection View Go Run
Search
TASK-2 (set,tuple,list,dictonary).ipynb
TASK 1 string 2.ipynb
matplotlib.ipynb
mat.ipynb
Untitled-2.ipynb
Untitled-1.ipynb
C: > Users > admin > Downloads > TASK-2 (set,tuple,list,dictonary).ipynb > # set
Generate + Code + Markdown | Run All | Clear All Outputs | Outline
Select Kernel
# set
set = {1, 2, 3, 4, 5}
# Add an item
set.add(6)
# Remove an item
set.remove(2)
# Check membership
print(3 in set)
# Union with another set
print(set.union({7, 8}))
# Intersection
print(my_set.intersection({4, 5, 6, 10}))
[9]
Python
True
{1, 3, 4, 5, 6, 7, 8}
{4, 5, 6}
#Tuple
tuple = (10, 20, 30, 40, 50)
[11]
Cell 1 of 4
Type here to search
Avatar: Fire and Ash -...
ENG
13:04
02-08-2025

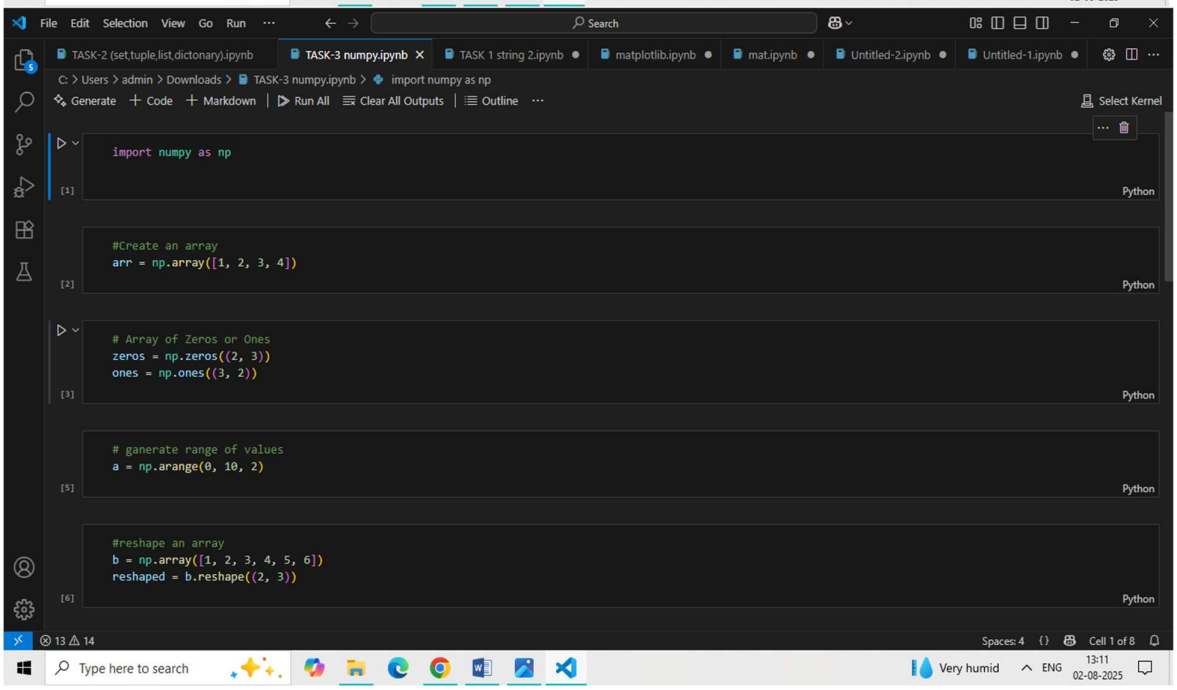

File Edit Selection View Go Run
Search
TASK-2 (set,tuple,list,dictonary).ipynb
TASK 1 string 2.ipynb
matplotlib.ipynb
mat.ipynb
Untitled-2.ipynb
Untitled-1.ipynb
C: > Users > admin > Downloads > TASK-2 (set,tuple,list,dictonary).ipynb > # set
Generate + Code + Markdown | Run All | Clear All Outputs | Outline
Select Kernel
# Reverse list
list.reverse()
print("Final list:", list)
[8]
Python
Final list: [99, 6, 5, 3, 2, 1]
#Dictonary
dict = {'name': 'Alice', 'age': 25, 'city': 'Paris'}
# Access value by key
print(dict['name'])
# Add or update key
dict['age'] = 26
Delete key
del dict['city']
# Get all keys/values
print(dict.keys())
print(dict.values())
# Check if key exists
print('age' in dict)
[13]
Python
Cell 1 of 4
Type here to search
30°C Mostly cloudy
ENG
13:04
02-08-2025

Qno.3 numpy programs





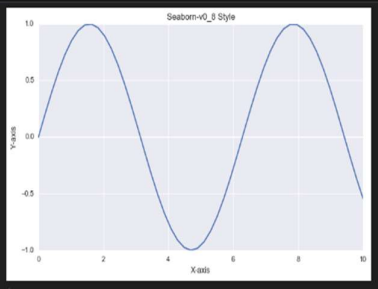

File Edit Selection View Go Run
Search
TASK-2 (set,tuple,list,dictonary).ipynb
TASK-3 numpy.ipynb
TASK 1 string 2.ipynb
matplotlib.ipynb
mat.ipynb
Untitled-2.ipynb
Untitled-1.ipynb
C: > Users > admin > Downloads > TASK-3 numpy.ipynb > import numpy as np
Generate + Code + Markdown | Run All Clear All Outputs | Outline
Select Kernel
#reshape an array
b = np.array([1, 2, 3, 4, 5, 6])
reshaped = b.reshape((2, 3))
[6]
Python
#mathematical operations
x = np.array([1, 2, 3])
y = np.array([4, 5, 6])
print(x + y)
print(x * y)
print(x ** 2)
[7]
Python
[5 7 9]
[4 10 18]
[1 4 9]
#Aggregate function
a = np.array([1, 2, 3, 4])
print(a.sum())
print(a.mean())
print(a.max())
[8]
Python
10
Spaces: 4
Cell 1 of 8
Type here to search
Very humid
ENG
13:11
02-08-2025


File Edit Selection View Go Run
Search
TASK-2 (set,tuple,list,dictonary).ipynb
TASK-3 numpy.ipynb
TASK 1 string 2.ipynb
matplotlib.ipynb
mat.ipynb
Untitled-2.ipynb
Untitled-1.ipynb
C: > Users > admin > Downloads > TASK-3 numpy.ipynb > import numpy as np
Generate + Code + Markdown | Run All Clear All Outputs | Outline
Select Kernel
import numpy as np
[1]
Python
#Create an array
arr = np.array([1, 2, 3, 4])
[2]
Python
# Array of Zeros or Ones
zeros = np.zeros((2, 3))
ones = np.ones((3, 2))
[3]
Python
# ganerate range of values
a = np.arange(0, 10, 2)
[5]
Python
#reshape an array
b = np.array([1, 2, 3, 4, 5, 6])
reshaped = b.reshape((2, 3))
[6]
Python
Spaces: 4
Cell 1 of 8
Type here to search
Very humid
ENG
13:11
02-08-2025

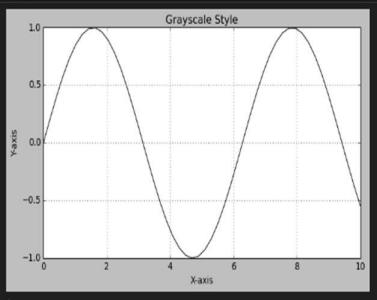
Qno.4 10 different styles of matplotlib

```
import matplotlib.pyplot as plt
import numpy as np
plt.style.use('Solarize_Light2')

x = np.linspace(0, 10, 50)
y = np.sin(x)


fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Solarize_Light2 Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```


```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('seaborn-v0_8')

x = np.linspace(0, 10, 50)
y = np.sin(x)

fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Seaborn-v0_8 Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```



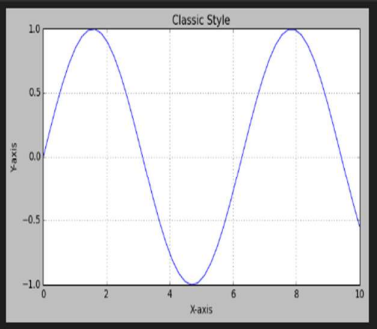
```
import matplotlib.pyplot as plt
import numpy as np
plt.style.use('grayscale')

x = np.linspace(0, 10, 50)
y = np.sin(x)
fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Grayscale Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```




```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('seaborn-v0_8')
```

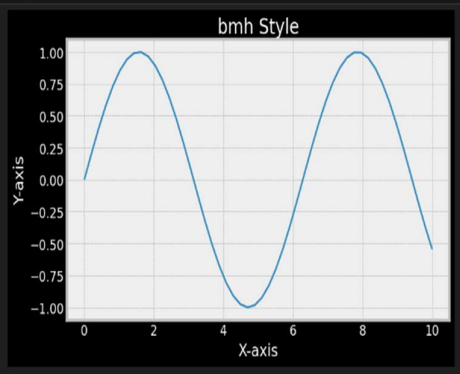
X-axis

```
import matplotlib.pyplot as plt
import numpy as np
plt.style.use('classic')
x = np.linspace(0, 10, 50)
y = np.sin(x)
fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Classic Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```

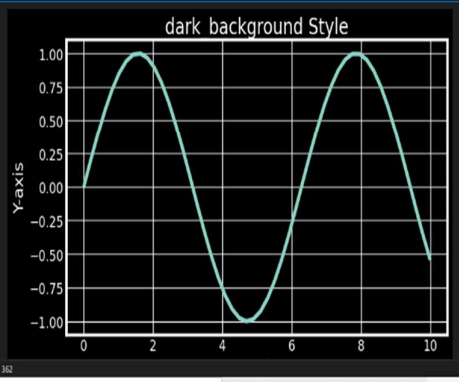



```
import matplotlib.pyplot as plt
```

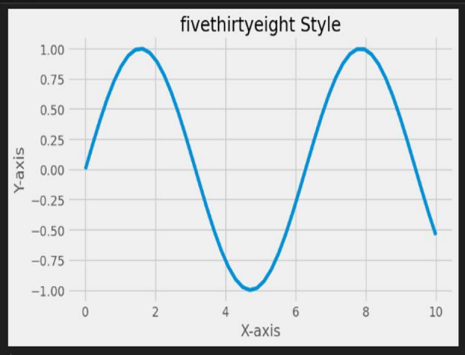
```
import matplotlib.pyplot as plt
import numpy as np


plt.style.use('bmh')

x = np.linspace(0, 10, 50)
y = np.sin(x)

fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('bmh Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```



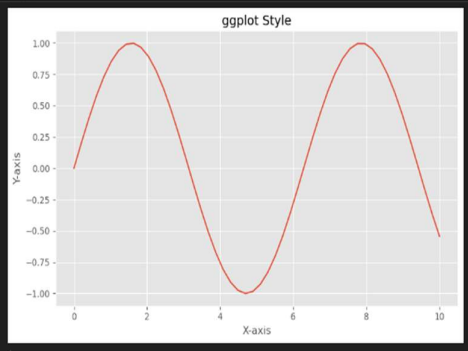

```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('dark_background')

x = np.linspace(0, 10, 50)
y = np.sin(x)


fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('dark_background Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```



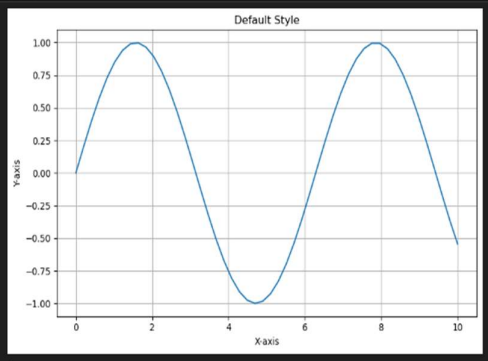
```
import matplotlib.pyplot as plt
import numpy as np
plt.style.use('fivethirtyeight')
x = np.linspace(0, 10, 50)
y = np.sin(x)
fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('fivethirtyeight Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```




```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('ggplot')

x = np.linspace(0, 10, 50)
y = np.sin(x)
fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('ggplot Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```



```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('default')

x = np.linspace(0, 10, 50)
y = np.sin(x)

fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Default Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```




```
import matplotlib.pyplot as plt
import numpy as np

plt.style.use('tableau-colorblind10')
x = np.linspace(0, 10, 50)
y = np.sin(x)
fig, ax = plt.subplots(figsize=(8, 5))
ax.plot(x, y)
ax.set_title('Tableau Colorblind10 Style')
ax.set_xlabel('X-axis')
ax.set_ylabel('Y-axis')
plt.grid(True)
plt.tight_layout()
plt.show()
```