

Python programs

1. Reverse a string "WorldWord". Hint: :: or join
2. Remove duplicates in ['dog','cat','tiger','dog','tiger']
Hint: use set
3. Perform union and intersection using Set
4. Create virtual environment and show installation of package matplotlib and import of modules for visualization.
5. Create a range to display players list within Players class

Answers:- 1. Reverse a string "WorldWord". Hint: :: or join

```
#Reverse String
a=input("Enter the string : ")
t=""
for i in a:
    t=i+t
print("Reverse String : ",t)
```

output:-

A screenshot of the IDLE Shell 3.12.4 window. The window has a title bar with standard Windows window controls (minimize, maximize, close). Below the title bar is a menu bar with options: File, Edit, Shell, Debug, Options, Window, and Help. The main text area shows the output of a Python script. It starts with the Python version and build information: "Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun 6 2024, 19:30:16) [MSC v.1940 64 bit (AMD64)] on win32". This is followed by a prompt "Type 'help', 'copyright', 'credits' or 'license()' for more information." and a red prompt ">>>". The next line shows the script path: "= RESTART: C:\Users\yuvaraj.b\Desktop\python\reverse.py". Then, a blue prompt "Enter the string : WorldWord" is shown, followed by the output "Reverse String : droWdlroW". Finally, another red prompt ">>>" is shown with a vertical cursor line below it.

```
Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun 6 2024, 19:30:16) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\yuvaraj.b\Desktop\python\reverse.py
Enter the string : WorldWord
Reverse String : droWdlroW
>>> |
```

2. CODE:

```
animals = ['dog', 'cat', 'tiger', 'dog', 'tiger']
unique = list(set(animals))
print(unique)
```



```
IDLE Shell 3.12.4
File Edit Shell Debug Options Window Help
Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun 6 2024, 19:30:16) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
- RESTART: C:/Users/yuvaraj.b/Desktop/python/set_duplicates.py
['tiger', 'dog', 'cat']
>>>
```

3. Perform union and intersection using Set

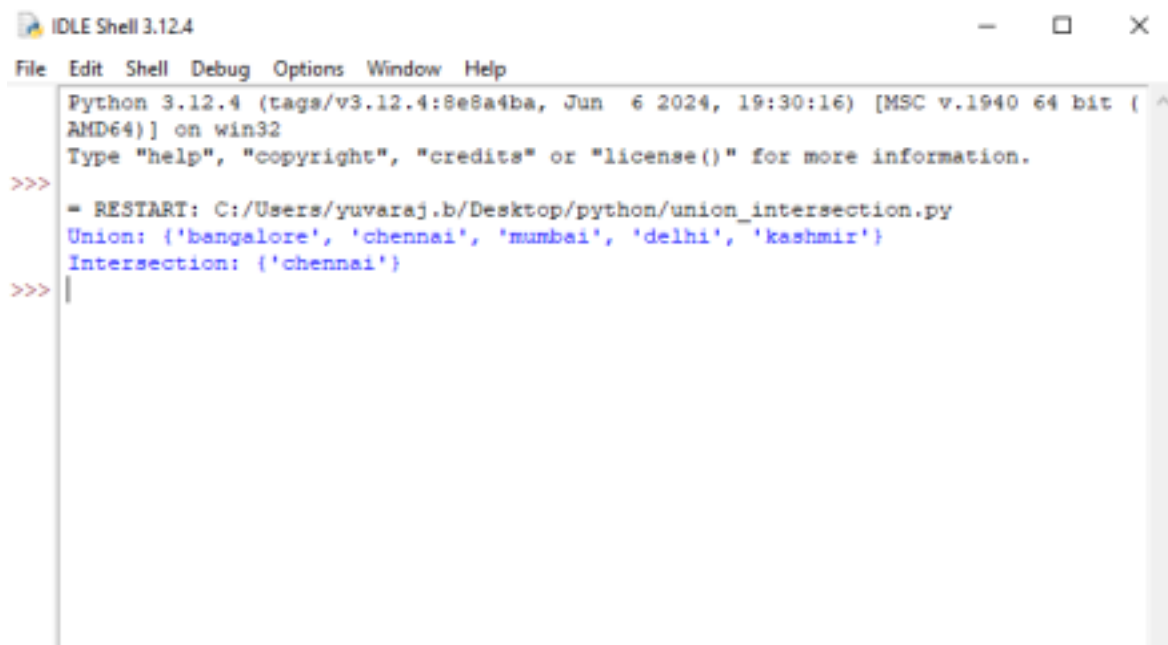
CODE:

```
# Define two sets
set1 = {'chennai', 'mumbai', 'delhi'}
set2 = {'chennai', 'bangalore', 'kashmir'}

# Union of set1 and set2
union_set = set1 | set2
print("Union:", union_set)

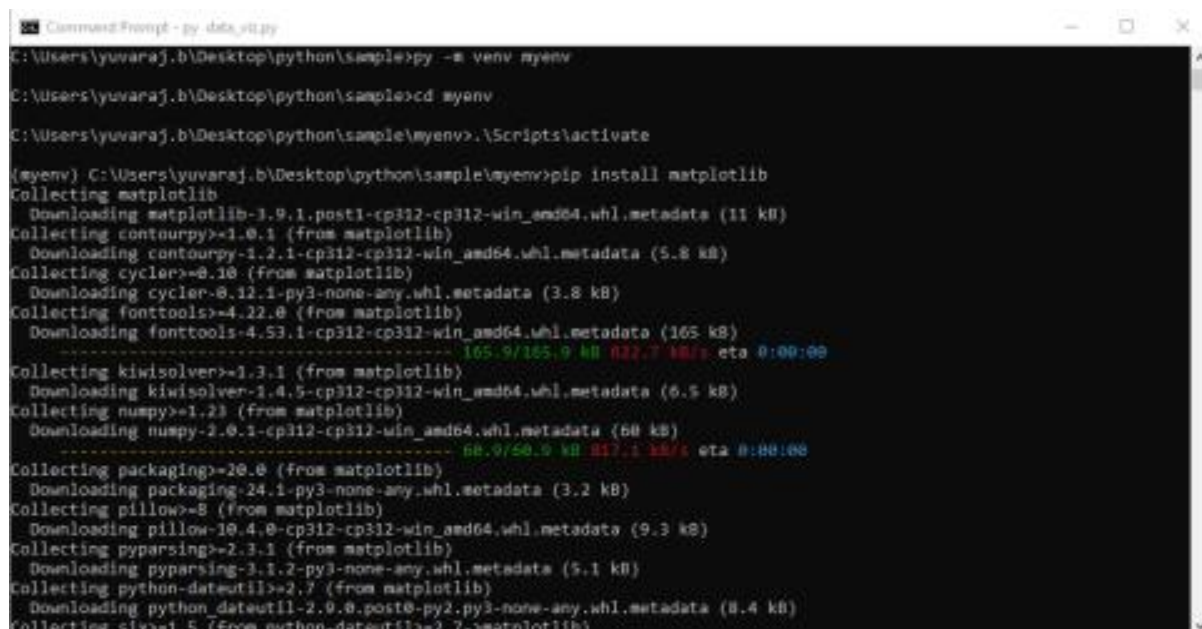
# Intersection of set1 and set2
intersection_set = set1 & set2
print("Intersection:", intersection_set)
```

OUTPUT:



```
Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun 6 2024, 19:30:16) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/yuvaraj.b/Desktop/python/union_intersection.py
Union: {'bangalore', 'chennai', 'mumbai', 'delhi', 'kashmir'}
Intersection: {'chennai'}
>>>
```

4. Create virtual environment and show installation of package matplotlib and import of modules for visualization.



```
Command Prompt - py data_viz.py
C:\Users\yuvaraj.b\Desktop\python\sample>py -m venv myenv
C:\Users\yuvaraj.b\Desktop\python\sample>cd myenv
C:\Users\yuvaraj.b\Desktop\python\sample\myenv>.\Scripts\activate
(myenv) C:\Users\yuvaraj.b\Desktop\python\sample\myenv>pip install matplotlib
Collecting matplotlib
  Downloading matplotlib-3.9.1.post1-cp312-cp312-win_amd64.whl.metadata (11 kB)
Collecting contourpy>=1.0.1 (from matplotlib)
  Downloading contourpy-1.2.1-cp312-cp312-win_amd64.whl.metadata (5.8 kB)
Collecting cycler>=0.10 (from matplotlib)
  Downloading cycler-0.12.1-py3-none-any.whl.metadata (3.8 kB)
Collecting fonttools>=4.22.0 (from matplotlib)
  Downloading fonttools-4.53.1-cp312-cp312-win_amd64.whl.metadata (165 kB)
----- 165.9/165.9 kB @ 22.7 kB/s eta 0:00:00
Collecting kiwisolver>=1.3.1 (from matplotlib)
  Downloading kiwisolver-1.4.5-cp312-cp312-win_amd64.whl.metadata (6.5 kB)
Collecting numpy>=1.21 (from matplotlib)
  Downloading numpy-2.0.1-cp312-cp312-win_amd64.whl.metadata (60 kB)
----- 60.0/60.0 kB @ 11.1 kB/s eta 0:00:00
Collecting packaging>=20.0 (from matplotlib)
  Downloading packaging-24.1-py3-none-any.whl.metadata (3.2 kB)
Collecting pillow>=8 (from matplotlib)
  Downloading pillow-10.4.0-cp312-cp312-win_amd64.whl.metadata (9.3 kB)
Collecting pyparsing>=2.3.1 (from matplotlib)
  Downloading pyparsing-3.1.2-py3-none-any.whl.metadata (5.1 kB)
Collecting python-dateutil>=2.7 (from matplotlib)
  Downloading python-dateutil-2.9.0.post0-py2.py3-none-any.whl.metadata (8.4 kB)
Collecting six>=1.5 (from python-dateutil>=2.7->matplotlib)
```

```
Command Prompt - py data_viz.py
Downloading fonttools-4.53.1-cp312-cp312-win_amd64.whl (2.2 MB)
----- 2.2/2.2 MB 1.6 MB/s eta 0:00:00
Downloading kiwisolver-1.4.5-cp312-cp312-win_amd64.whl (56 kB)
----- 56.0/56.0 kB 1.4 MB/s eta 0:00:00
Downloading numpy-2.0.1-cp312-cp312-win_amd64.whl (16.3 MB)
----- 16.3/16.3 MB 1.6 MB/s eta 0:00:00
Downloading packaging-24.1-py3-none-any.whl (53 kB)
----- 54.0/54.0 kB 694.4 kB/s eta 0:00:00
Downloading pillow-10.4.0-cp312-cp312-win_amd64.whl (2.6 MB)
----- 2.6/2.6 MB 1.6 MB/s eta 0:00:00
Downloading pyparsing-3.1.2-py3-none-any.whl (103 kB)
----- 103.2/103.2 kB 2.0 MB/s eta 0:00:00
Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)
----- 229.9/229.9 kB 1.2 MB/s eta 0:00:00
Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
----- 11.0/11.0 kB 1.4 MB/s eta 0:00:00
Installing collected packages: six, pyparsing, pillow, packaging, numpy, kiwisolver, fonttools, cyciler, python-dateutil,
contourpy, matplotlib
Successfully installed contourpy-1.2.1 cyciler-0.12.1 fonttools-4.53.1 kiwisolver-1.4.5 matplotlib-3.9.1.post1 numpy-2.0.
1 packaging-24.1 pillow-10.4.0 pyparsing-3.1.2 python-dateutil-2.9.0.post0 six-1.16.0

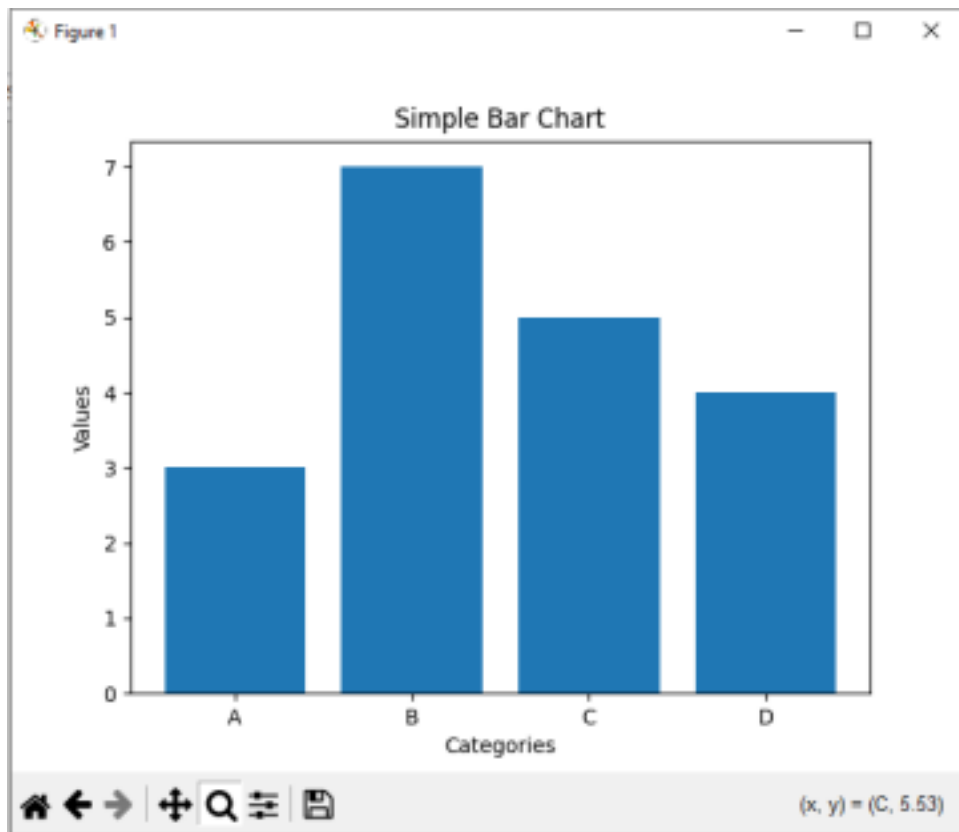
[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip

(myenv) C:\Users\yuvraj.b\Desktop\python\sample\myenv>cd ..
(myenv) C:\Users\yuvraj.b\Desktop\python\sample>py data_viz.py
```

```
import matplotlib.pyplot as plt
def simple_bar_chart():
    # Sample data
    categories = ['A', 'B', 'C', 'D']
    values = [3, 7, 5, 4]
    # Create a bar chart
    plt.bar(categories, values)
    # Add title and labels
    plt.title('Simple Bar Chart')
    plt.xlabel('Categories')
    plt.ylabel('Values')
    # Save the plot as a PNG file
    plt.savefig('bar_chart.png')
    # Display the plot
    plt.show()

if __name__ == "__main__":
    simple_bar_chart()
```

OUTPUT:



5. Create a range to display players list within Players class

CODE:

```
class Players:
    def __init__(self, players_list):
        self.players_list = players_list

    def display_players_in_range(self, start, end):
        # Ensure the start and end indices are within bounds
        start = max(0, start)
        end = min(len(self.players_list), end)
```

Display the players within the specified range

for i in range(start, end):

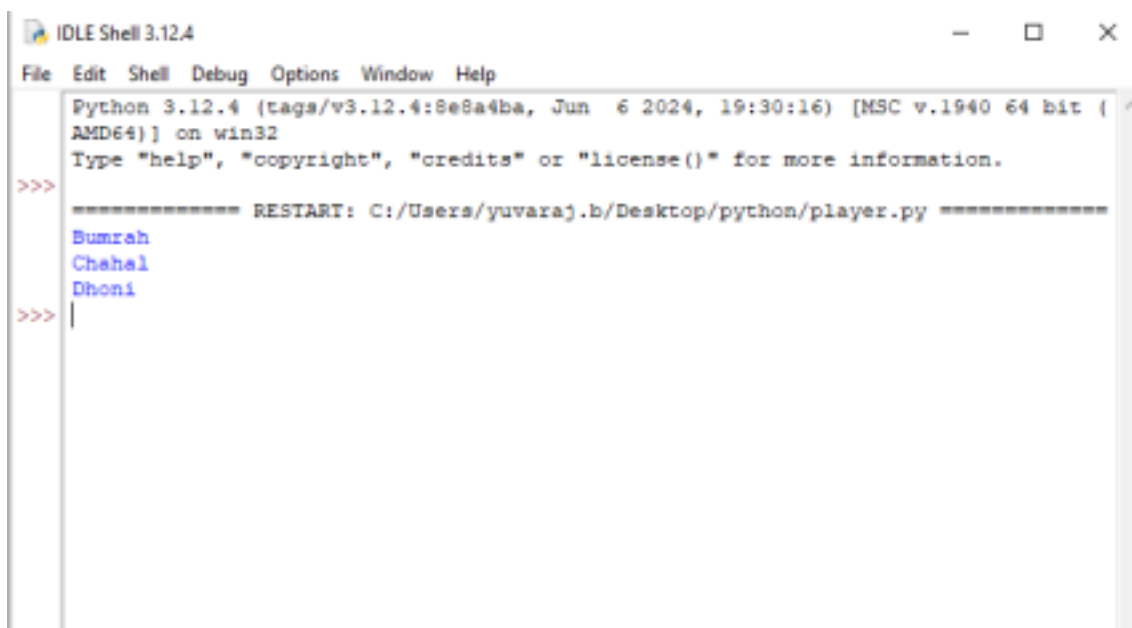
print(self.players_list[i])

Example usage:

```
players = Players(['Ashwin', 'Bumrah', 'Chahal', 'Dhoni', 'Rohit',  
'Virat'])
```

```
players.display_players_in_range(1, 4) # Displays players  
from index 1 to 3 (Bob, Charlie, David)
```

OUTPUT:



```
IDLE Shell 3.12.4
File Edit Shell Debug Options Window Help
Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun 6 2024, 19:30:16) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/yuvaraj.b/Desktop/python/player.py =====
Bumrah
Chahal
Dhoni
>>> |
```