13 – DAY – TASK (12-08-2024)

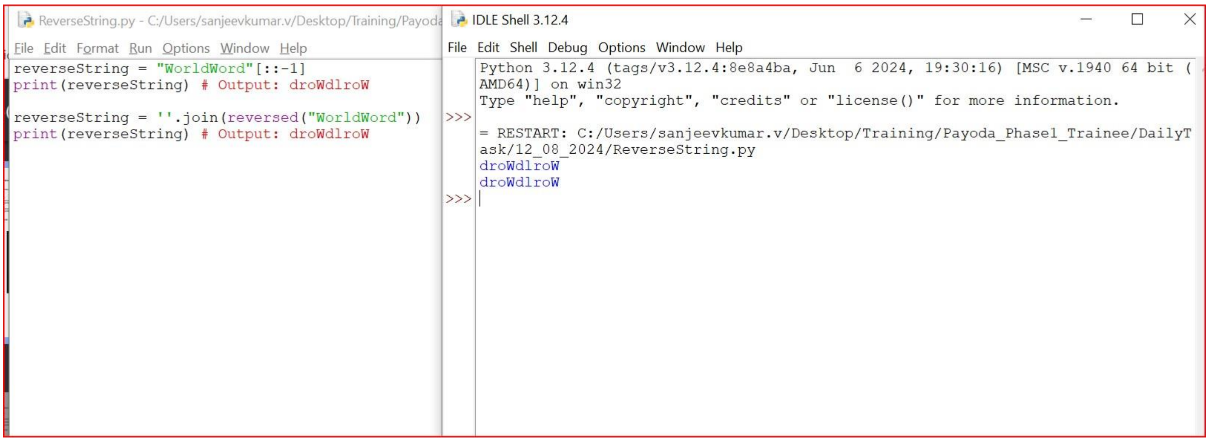
1. **Reverse a string “WorldWord”. Hint: :: or join**

   Code:

   reverseString = "WorldWord"[::-1]
   print(reverseString) # Output: droWdlroW

   reverseString = ''.join(reversed("WorldWord"))
   print(reverseString) # Output: droWdlroW

   Output:


ReverseString.py - C:/Users/sanjeevkumar.v/Desktop/Training/Payoda
File Edit Format Run Options Window Help
IDLE Shell 3.12.4
File Edit Shell Debug Options Window Help

```
reverseString = "WorldWord"[::-1]
print(reverseString) # Output: droWdlroW

reverseString = ''.join(reversed("WorldWord"))
print(reverseString) # Output: droWdlroW
```

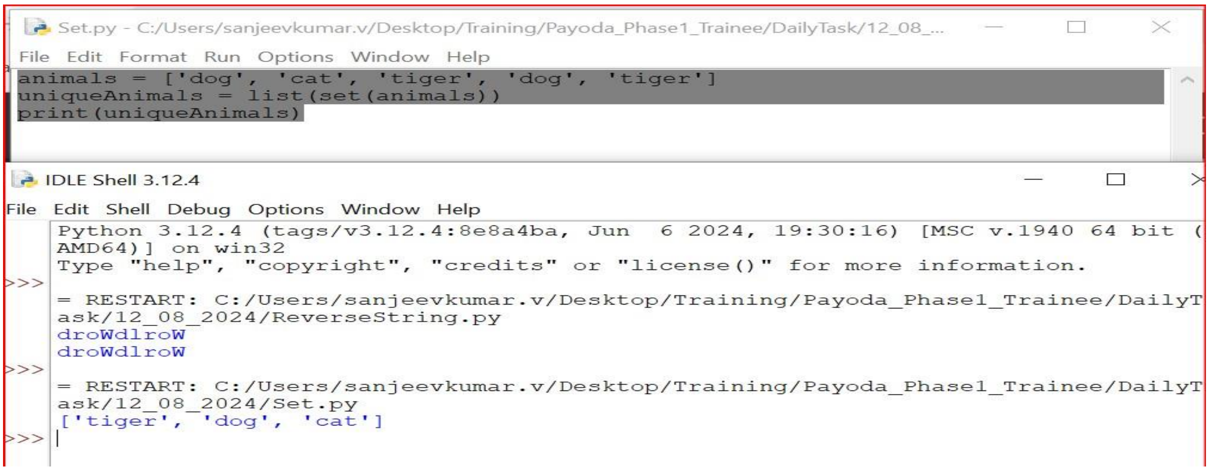
```
    Python 3.12.4 (tags/v3.12.4:8e8a4ba, Jun  6 2024, 19:30:16) [MSC v.1940 64 bit (
    AMD64)] on win32
    Type "help", "copyright", "credits" or "license()" for more information.
>>>
    = RESTART: C:/Users/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyT
    ask/12_08_2024/ReverseString.py
    droWdlroW
    droWdlroW
>>> 
```

2. **Remove duplicates in [’dog’,’cat’,’tiger’,’dog’, ‘tiger’] Hint: use set**

   Code:

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

   Output:


Set.py - C:/Users/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyTask/12_08_...
File Edit Format Run Options Window Help
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```
animals = ['dog', 'cat', 'tiger', 'dog', 'tiger']
uniqueAnimals = list(set(animals))
print(uniqueAnimals)
```

```
    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/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyT
    ask/12_08_2024/ReverseString.py
    droWdlroW
    droWdlroW
>>>
    = RESTART: C:/Users/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyT
    ask/12_08_2024/Set.py
    ['tiger', 'dog', 'cat']
>>> 
```

3. **Perform union and intersection using Set**

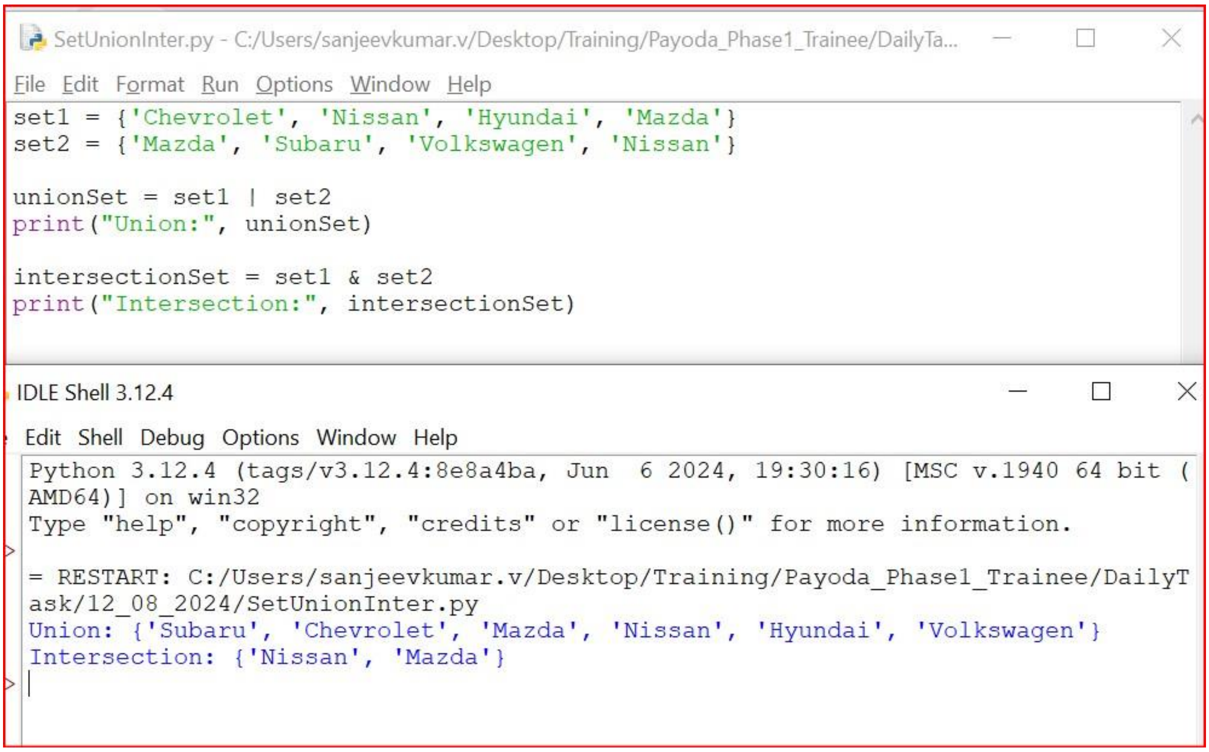
Code:

```
set1 = {'Chevrolet', 'Nissan', 'Hyundai', 'Mazda'}
set2 = {'Mazda', 'Subaru', 'Volkswagen', 'Nissan'}

unionSet = set1 | set2
print("Union:", unionSet)

intersectionSet = set1 & set2
print("Intersection:", intersectionSet)
```

Output:


SetUnionInter.py - C:/Users/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyTa...
File Edit Format Run Options Window Help

```
set1 = {'Chevrolet', 'Nissan', 'Hyundai', 'Mazda'}
set2 = {'Mazda', 'Subaru', 'Volkswagen', 'Nissan'}

unionSet = set1 | set2
print("Union:", unionSet)

intersectionSet = set1 & set2
print("Intersection:", intersectionSet)
```

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```
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/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyT
ask/12_08_2024/SetUnionInter.py
Union: {'Subaru', 'Chevrolet', 'Mazda', 'Nissan', 'Hyundai', 'Volkswagen'}
Intersection: {'Nissan', 'Mazda'}
```

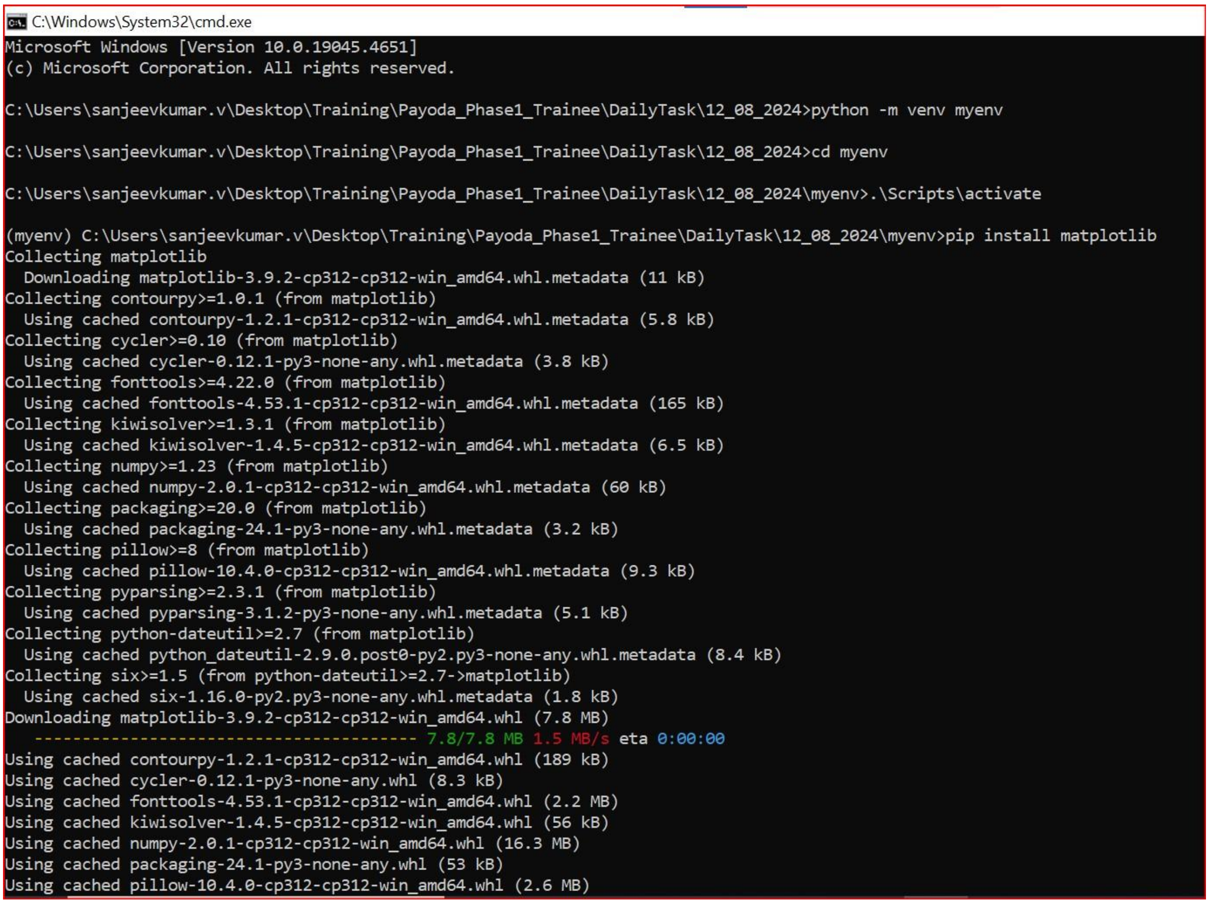
4. **Create virtual environment and show installation of package matplotlib and import of modules for visualization.**

Code:

```
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:



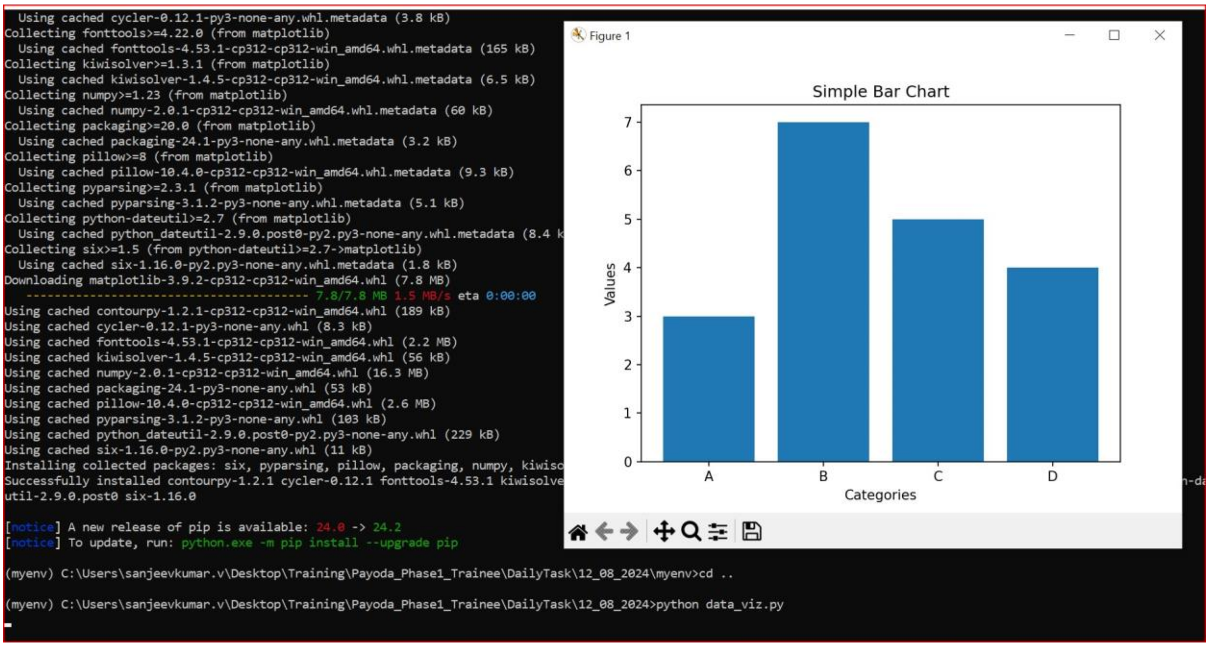
```
Microsoft Windows [Version 10.0.19045.4651]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024>python -m venv myenv

C:\Users\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024>cd myenv

C:\Users\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024\myenv>.\Scripts\activate

(myenv) C:\Users\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024\myenv>pip install matplotlib
Collecting matplotlib
  Downloading matplotlib-3.9.2-cp312-cp312-win_amd64.whl.metadata (11 kB)
Collecting contourpy>=1.0.1 (from matplotlib)
  Using cached contourpy-1.2.1-cp312-cp312-win_amd64.whl.metadata (5.8 kB)
Collecting cycler>=0.10 (from matplotlib)
  Using cached cycler-0.12.1-py3-none-any.whl.metadata (3.8 kB)
Collecting fonttools>=4.22.0 (from matplotlib)
  Using cached fonttools-4.53.1-cp312-cp312-win_amd64.whl.metadata (165 kB)
Collecting kiwisolver>=1.3.1 (from matplotlib)
  Using cached kiwisolver-1.4.5-cp312-cp312-win_amd64.whl.metadata (6.5 kB)
Collecting numpy>=1.23 (from matplotlib)
  Using cached numpy-2.0.1-cp312-cp312-win_amd64.whl.metadata (60 kB)
Collecting packaging>=20.0 (from matplotlib)
  Using cached packaging-24.1-py3-none-any.whl.metadata (3.2 kB)
Collecting pillow>=8 (from matplotlib)
  Using cached pillow-10.4.0-cp312-cp312-win_amd64.whl.metadata (9.3 kB)
Collecting pyparsing>=2.3.1 (from matplotlib)
  Using cached pyparsing-3.1.2-py3-none-any.whl.metadata (5.1 kB)
Collecting python-dateutil>=2.7 (from matplotlib)
  Using cached 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)
  Using cached six-1.16.0-py2.py3-none-any.whl.metadata (1.8 kB)
Downloading matplotlib-3.9.2-cp312-cp312-win_amd64.whl (7.8 MB)
   ---------------------------------------- 7.8/7.8 MB 1.5 MB/s eta 0:00:00
Using cached contourpy-1.2.1-cp312-cp312-win_amd64.whl (189 kB)
Using cached cycler-0.12.1-py3-none-any.whl (8.3 kB)
Using cached fonttools-4.53.1-cp312-cp312-win_amd64.whl (2.2 MB)
Using cached kiwisolver-1.4.5-cp312-cp312-win_amd64.whl (56 kB)
Using cached numpy-2.0.1-cp312-cp312-win_amd64.whl (16.3 MB)
Using cached packaging-24.1-py3-none-any.whl (53 kB)
Using cached pillow-10.4.0-cp312-cp312-win_amd64.whl (2.6 MB)
```



```
  Using cached cycler-0.12.1-py3-none-any.whl.metadata (3.8 kB)
Collecting fonttools>=4.22.0 (from matplotlib)
  Using cached fonttools-4.53.1-cp312-cp312-win_amd64.whl.metadata (165 kB)
Collecting kiwisolver>=1.3.1 (from matplotlib)
  Using cached kiwisolver-1.4.5-cp312-cp312-win_amd64.whl.metadata (6.5 kB)
Collecting numpy>=1.23 (from matplotlib)
  Using cached numpy-2.0.1-cp312-cp312-win_amd64.whl.metadata (60 kB)
Collecting packaging>=20.0 (from matplotlib)
  Using cached packaging-24.1-py3-none-any.whl.metadata (3.2 kB)
Collecting pillow>=8 (from matplotlib)
  Using cached pillow-10.4.0-cp312-cp312-win_amd64.whl.metadata (9.3 kB)
Collecting pyparsing>=2.3.1 (from matplotlib)
  Using cached pyparsing-3.1.2-py3-none-any.whl.metadata (5.1 kB)
Collecting python-dateutil>=2.7 (from matplotlib)
  Using cached python_dateutil-2.9.0.post0-py2.py3-none-any.whl.metadata (8.4 k
Collecting six>=1.5 (from python-dateutil>=2.7->matplotlib)
  Using cached six-1.16.0-py2.py3-none-any.whl.metadata (1.8 kB)
Downloading matplotlib-3.9.2-cp312-cp312-win_amd64.whl (7.8 MB)
   ---------------------------------------- 7.8/7.8 MB 1.5 MB/s eta 0:00:00
Using cached contourpy-1.2.1-cp312-cp312-win_amd64.whl (189 kB)
Using cached cycler-0.12.1-py3-none-any.whl (8.3 kB)
Using cached fonttools-4.53.1-cp312-cp312-win_amd64.whl (2.2 MB)
Using cached kiwisolver-1.4.5-cp312-cp312-win_amd64.whl (56 kB)
Using cached numpy-2.0.1-cp312-cp312-win_amd64.whl (16.3 MB)
Using cached packaging-24.1-py3-none-any.whl (53 kB)
Using cached pillow-10.4.0-cp312-cp312-win_amd64.whl (2.6 MB)
Using cached pyparsing-3.1.2-py3-none-any.whl (103 kB)
Using cached python_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)
Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, pyparsing, pillow, packaging, numpy, kiwiso
Successfully installed contourpy-1.2.1 cycler-0.12.1 fonttools-4.53.1 kiwisolve
util-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\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024\myenv>cd ..

(myenv) C:\Users\sanjeevkumar.v\Desktop\Training\Payoda_Phase1_Trainee\DailyTask\12_08_2024>python data_viz.py
```

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

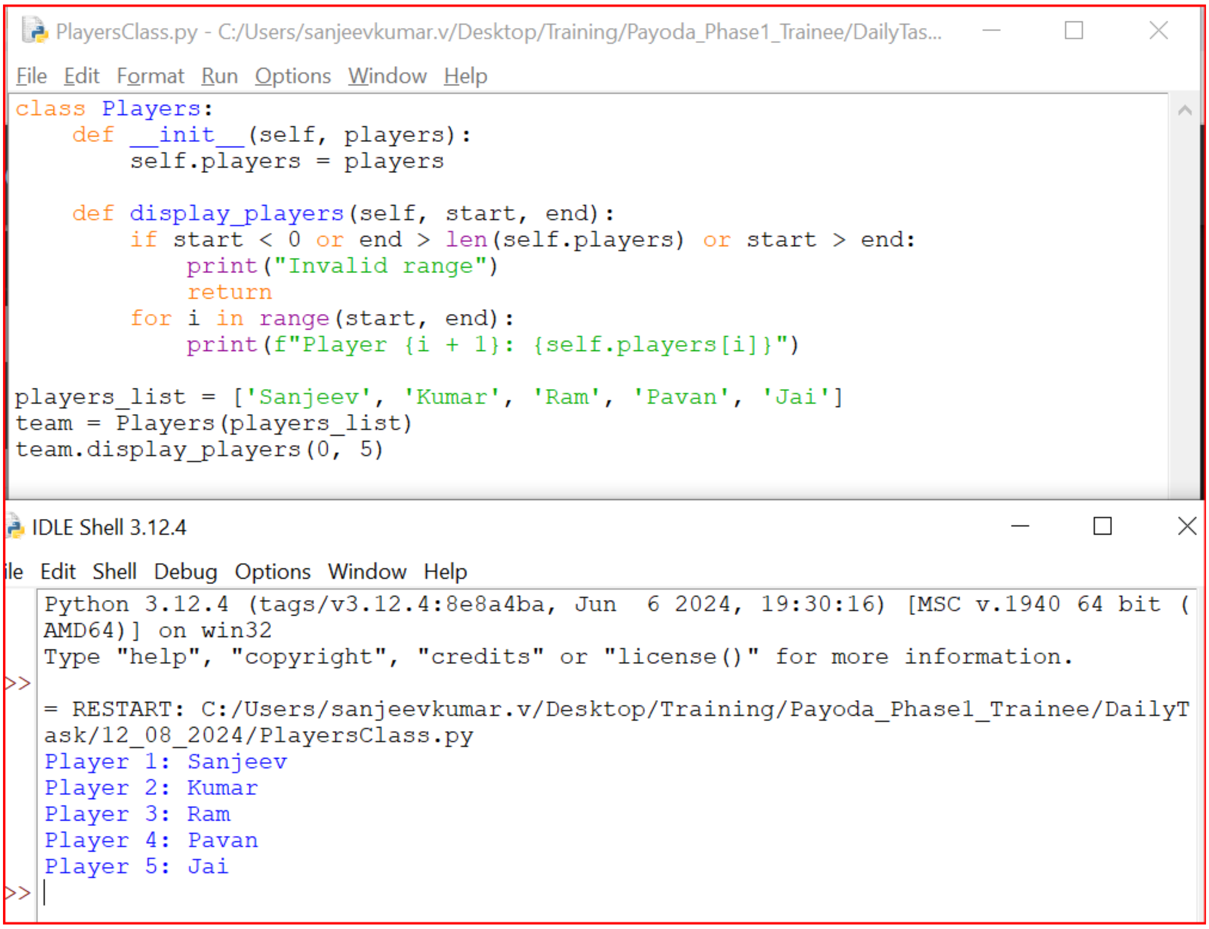
Code:

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

  def display_players(self, start, end):
    if start < 0 or end > len(self.players) or start > end:
      print("Invalid range")
      return
    for i in range(start, end):
      print(f"Player {i + 1}: {self.players[i]}")

players_list = ['Sanjeev', 'Kumar', 'Ram', 'Pavan', 'Jai']
team = Players(players_list)
team.display_players(0, 5)
```

Output:



PlayersClass.py - C:/Users/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyTas...
File Edit Format Run Options Window Help

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

    def display_players(self, start, end):
        if start < 0 or end > len(self.players) or start > end:
            print("Invalid range")
            return
        for i in range(start, end):
            print(f"Player {i + 1}: {self.players[i]}")

players_list = ['Sanjeev', 'Kumar', 'Ram', 'Pavan', 'Jai']
team = Players(players_list)
team.display_players(0, 5)
```

IDLE Shell 3.12.4
ile 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/sanjeevkumar.v/Desktop/Training/Payoda_Phase1_Trainee/DailyT
ask/12_08_2024/PlayersClass.py
Player 1: Sanjeev
Player 2: Kumar
Player 3: Ram
Player 4: Pavan
Player 5: Jai
>>
```