

In [12]:

```
#Import numpy
import numpy as np

#Seasons
Seasons = ["2015", "2016", "2017", "2018", "2019", "2020", "2021", "2022", "2023", "2024"]
Sdict = {"2015":0, "2016":1, "2017":2, "2018":3, "2019":4, "2020":5, "2021":6, "2022":7, "2023":8, "2024":9}

#Players
Players = ["Sachin", "Rahul", "Smith", "Sami", "Pollard", "Morris", "Samson", "Dhoni", "Kohli", "Sky"]
Pdict = {"Sachin":0, "Rahul":1, "Smith":2, "Sami":3, "Pollard":4, "Morris":5, "Samson":6, "Dhoni":7, "Kohli":8, "Sky":9}

#Salaries
Sachin_Salary = [15946875, 17718750, 19490625, 21262500, 23034375, 24806250, 25244493, 27849149, 30453805, 23500000]
Rahul_Salary = [12000000, 12744189, 13488377, 14232567, 14976754, 16324500, 18038573, 19752645, 21466718, 23180790]
Smith_Salary = [4621800, 5828090, 13041250, 14410581, 15779912, 14500000, 16022500, 17545000, 19067500, 20644400]
Sami_Salary = [3713640, 4694041, 13041250, 14410581, 15779912, 17149243, 18518574, 19450000, 22407474, 22458000]
Pollard_Salary = [4493160, 4806720, 6061274, 13758000, 15202590, 16647180, 18091770, 19536360, 20513178, 21436271]
Morris_Salary = [3348000, 4235220, 12455000, 14410581, 15779912, 14500000, 16022500, 17545000, 19067500, 20644400]
Samson_Salary = [3144240, 3380160, 3615960, 4574189, 13520500, 14940153, 16359805, 17779458, 18668431, 20068563]
Dhoni_Salary = [0, 0, 4171200, 4484040, 4796880, 6053663, 15506632, 16669630, 17832627, 18995624]
Kohli_Salary = [0, 0, 0, 4822800, 5184480, 5546160, 6993708, 16402500, 17632688, 18862875]
Sky_Salary = [3031920, 3841443, 13041250, 14410581, 15779912, 14200000, 15691000, 17182000, 18673000, 15000000]

#Matrix
Salary = np.array([Sachin_Salary, Rahul_Salary, Smith_Salary, Sami_Salary, Pollard_Salary, Morris_Salary, Samson_Salary, Dhoni_Salary])

#Games
Sachin_G = [80, 77, 82, 82, 73, 82, 58, 78, 6, 35]
Rahul_G = [82, 57, 82, 79, 76, 72, 60, 72, 79, 80]
Smith_G = [79, 78, 75, 81, 76, 79, 62, 76, 77, 69]
Sami_G = [80, 65, 77, 66, 69, 77, 55, 67, 77, 40]
Pollard_G = [82, 82, 82, 79, 82, 78, 54, 76, 71, 41]
Morris_G = [70, 69, 67, 77, 70, 77, 57, 74, 79, 44]
Samson_G = [78, 64, 80, 78, 45, 80, 60, 70, 62, 82]
Dhoni_G = [35, 35, 80, 74, 82, 78, 66, 81, 81, 27]
Kohli_G = [40, 40, 40, 81, 78, 81, 39, 0, 10, 51]
Sky_G = [75, 51, 51, 79, 77, 76, 49, 69, 54, 62]

#Matrix
Games = np.array([Sachin_G, Rahul_G, Smith_G, Sami_G, Pollard_G, Morris_G, Samson_G, Dhoni_G, Kohli_G, Sky_G])
```

```
#Points
Sachin PTS = [2832, 2430, 2323, 2201, 1970, 2078, 1616, 2133, 83, 782]
Rahul PTS = [1653, 1426, 1779, 1688, 1619, 1312, 1129, 1170, 1245, 1154]
Smith PTS = [2478, 2132, 2250, 2304, 2258, 2111, 1683, 2036, 2089, 1743]
Sami PTS = [2122, 1881, 1978, 1504, 1943, 1970, 1245, 1920, 2112, 966]
Pollard PTS = [1292, 1443, 1695, 1624, 1503, 1784, 1113, 1296, 1297, 646]
Morris PTS = [1572, 1561, 1496, 1746, 1678, 1438, 1025, 1232, 1281, 928]
Samson PTS = [1258, 1104, 1684, 1781, 841, 1268, 1189, 1186, 1185, 1564]
Dhoni PTS = [903, 903, 1624, 1871, 2472, 2161, 1850, 2280, 2593, 686]
Kohli PTS = [597, 597, 597, 1361, 1619, 2026, 852, 0, 159, 904]
Sky PTS = [2040, 1397, 1254, 2386, 2045, 1941, 1082, 1463, 1028, 1331]
#Matrix
Points = np.array([Sachin PTS, Rahul PTS, Smith PTS, Sami PTS, Pollard PTS, Morris PTS, Samson PTS, Dhoni PTS, Kohli PTS, Sky_
```

In [13]: Salary

```
Out[13]: array([[15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
   25244493, 27849149, 30453805, 23500000],
   [12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
   18038573, 19752645, 21466718, 23180790],
   [ 4621800,  5828090, 13041250, 14410581, 15779912, 14500000,
   16022500, 17545000, 19067500, 20644400],
   [ 3713640,  4694041, 13041250, 14410581, 15779912, 17149243,
   18518574, 19450000, 22407474, 22458000],
   [ 4493160,  4806720, 6061274, 13758000, 15202590, 16647180,
   18091770, 19536360, 20513178, 21436271],
   [ 3348000,  4235220, 12455000, 14410581, 15779912, 14500000,
   16022500, 17545000, 19067500, 20644400],
   [ 3144240,  3380160, 3615960, 4574189, 13520500, 14940153,
   16359805, 17779458, 18668431, 20068563],
   [ 0, 0, 4171200, 4484040, 4796880, 6053663,
   15506632, 16669630, 17832627, 18995624],
   [ 0, 0, 4822800, 5184480, 5546160,
   6993708, 16402500, 17632688, 18862875],
   [ 3031920, 3841443, 13041250, 14410581, 15779912, 14200000,
   15691000, 17182000, 18673000, 15000000]])
```

In [14]: Games

```
Out[14]: array([[80, 77, 82, 82, 73, 82, 58, 78, 6, 35],  
 [82, 57, 82, 79, 76, 72, 60, 72, 79, 80],  
 [79, 78, 75, 81, 76, 79, 62, 76, 77, 69],  
 [80, 65, 77, 66, 69, 77, 55, 67, 77, 40],  
 [82, 82, 82, 79, 82, 78, 54, 76, 71, 41],  
 [70, 69, 67, 77, 70, 77, 57, 74, 79, 44],  
 [78, 64, 80, 78, 45, 80, 60, 70, 62, 82],  
 [35, 35, 80, 74, 82, 78, 66, 81, 81, 27],  
 [40, 40, 40, 81, 78, 81, 39, 0, 10, 51],  
 [75, 51, 51, 79, 77, 76, 49, 69, 54, 62]])
```

```
In [15]: Points
```

```
Out[15]: array([[2832, 2430, 2323, 2201, 1970, 2078, 1616, 2133, 83, 782],  
 [1653, 1426, 1779, 1688, 1619, 1312, 1129, 1170, 1245, 1154],  
 [2478, 2132, 2250, 2304, 2258, 2111, 1683, 2036, 2089, 1743],  
 [2122, 1881, 1978, 1504, 1943, 1970, 1245, 1920, 2112, 966],  
 [1292, 1443, 1695, 1624, 1503, 1784, 1113, 1296, 1297, 646],  
 [1572, 1561, 1496, 1746, 1678, 1438, 1025, 1232, 1281, 928],  
 [1258, 1104, 1684, 1781, 841, 1268, 1189, 1186, 1185, 1564],  
 [903, 903, 1624, 1871, 2472, 2161, 1850, 2280, 2593, 686],  
 [597, 597, 597, 1361, 1619, 2026, 852, 0, 159, 904],  
 [2040, 1397, 1254, 2386, 2045, 1941, 1082, 1463, 1028, 1331]])
```

```
In [16]: Sdict
```

```
Out[16]: {'2015': 0,  
 '2016': 1,  
 '2017': 2,  
 '2018': 3,  
 '2019': 4,  
 '2020': 5,  
 '2021': 6,  
 '2022': 7,  
 '2023': 8,  
 '2024': 9}
```

```
In [17]: Pdict
```

```
Out[17]: {'Sachin': 0,  
          'Rahul': 1,  
          'Smith': 2,  
          'Sami': 3,  
          'Pollard': 4,  
          'Morris': 5,  
          'Samson': 6,  
          'Dhoni': 7,  
          'Kohli': 8,  
          'Sky': 9}
```

```
In [18]: Games[5]
```

```
Out[18]: array([70, 69, 67, 77, 70, 77, 57, 74, 79, 44])
```

```
In [19]: Games[5,3]
```

```
Out[19]: np.int64(77)
```

```
In [20]: Salary
```

```
Out[20]: array([[15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
   25244493, 27849149, 30453805, 23500000],
   [12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
   18038573, 19752645, 21466718, 23180790],
   [ 4621800, 5828090, 13041250, 14410581, 15779912, 14500000,
   16022500, 17545000, 19067500, 20644400],
   [ 3713640, 4694041, 13041250, 14410581, 15779912, 17149243,
   18518574, 19450000, 22407474, 22458000],
   [ 4493160, 4806720, 6061274, 13758000, 15202590, 16647180,
   18091770, 19536360, 20513178, 21436271],
   [ 3348000, 4235220, 12455000, 14410581, 15779912, 14500000,
   16022500, 17545000, 19067500, 20644400],
   [ 3144240, 3380160, 3615960, 4574189, 13520500, 14940153,
   16359805, 17779458, 18668431, 20068563],
   [ 0, 0, 4171200, 4484040, 4796880, 6053663,
   15506632, 16669630, 17832627, 18995624],
   [ 0, 0, 0, 4822800, 5184480, 5546160,
   6993708, 16402500, 17632688, 18862875],
   [ 3031920, 3841443, 13041250, 14410581, 15779912, 14200000,
   15691000, 17182000, 18673000, 15000000]])
```

```
In [21]: Salary[0]
```

```
Out[21]: array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
   25244493, 27849149, 30453805, 23500000])
```

```
In [22]: Pdict
```

```
Out[22]: {'Sachin': 0,
   'Rahul': 1,
   'Smith': 2,
   'Sami': 3,
   'Pollard': 4,
   'Morris': 5,
   'Samson': 6,
   'Dhoni': 7,
   'Kohli': 8,
   'Sky': 9}
```

```
In [23]: Games[0]
```

```
Out[23]: array([80, 77, 82, 82, 73, 82, 58, 78, 6, 35])
```

```
In [24]: Salary[0]/ Games[0]
```

```
Out[24]: array([ 199335.9375 , 230113.63636364, 237690.54878049,
 259298.7804878 , 315539.38356164, 302515.24390244,
 435249.87931034, 357040.37179487, 5075634.16666667,
 671428.57142857])
```

```
In [25]: np.round(Salary[0] /Games[0])
```

```
Out[25]: array([ 199336., 230114., 237691., 259299., 315539., 302515.,
 435250., 357040., 5075634., 671429.])
```

```
In [92]: Points
```

```
Out[92]: array([[2832, 2430, 2323, 2201, 1970, 2078, 1616, 2133, 83, 782],
 [1653, 1426, 1779, 1688, 1619, 1312, 1129, 1170, 1245, 1154],
 [2478, 2132, 2250, 2304, 2258, 2111, 1683, 2036, 2089, 1743],
 [2122, 1881, 1978, 1504, 1943, 1970, 1245, 1920, 2112, 966],
 [1292, 1443, 1695, 1624, 1503, 1784, 1113, 1296, 1297, 646],
 [1572, 1561, 1496, 1746, 1678, 1438, 1025, 1232, 1281, 928],
 [1258, 1104, 1684, 1781, 841, 1268, 1189, 1186, 1185, 1564],
 [903, 903, 1624, 1871, 2472, 2161, 1850, 2280, 2593, 686],
 [597, 597, 597, 1361, 1619, 2026, 852, 0, 159, 904],
 [2040, 1397, 1254, 2386, 2045, 1941, 1082, 1463, 1028, 1331]])
```

```
In [93]: mydata = np.arange(0,20)
print(mydata)
```

```
[ 0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19]
```

```
In [94]: np.reshape(mydata,(4,5)) # 5 rows & 4 columns
```

```
Out[94]: array([[ 0,  1,  2,  3,  4],
 [ 5,  6,  7,  8,  9],
 [10, 11, 12, 13, 14],
 [15, 16, 17, 18, 19]])
```

```
In [96]: np.reshape(mydata,(2,10)) # 10 rows & 2 columns
```

```
Out[96]: array([[ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9],
   [10, 11, 12, 13, 14, 15, 16, 17, 18, 19]])
```

```
In [97]: mydata
```

```
Out[97]: array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,
   17, 18, 19])
```

```
In [117...]: #np.reshape(mydata,(3,2), order = 'c') #'C' means to read / write the elements using C-like index order
MATR1 = np.reshape(mydata, (3,2), order = 'c')
MATR1
```

```
Out[117...]: array([[1, 2],
   [3, 4],
   [5, 6]])
```

```
In [118...]: MATR1
```

```
Out[118...]: array([[1, 2],
   [3, 4],
   [5, 6]])
```

```
In [122...]: MATR1 = np.reshape(mydata, (2,3), order = 'c')
MATR1
```

```
Out[122...]: array([[1, 2, 3],
   [4, 5, 6]])
```

```
In [ ]:
```

## lets visualize the data

```
In [26]: import warnings  
warnings.filterwarnings('ignore')  
  
# to ignore as unwanted error write the code as ignore all
```

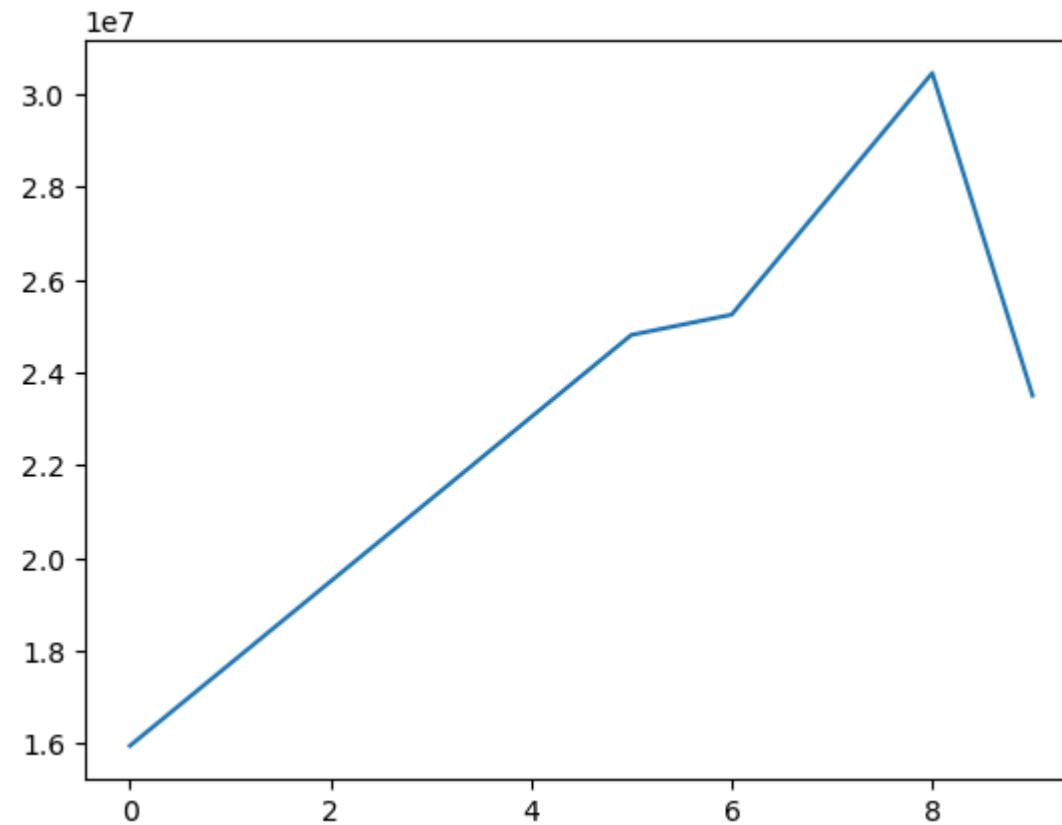
```
In [27]: import matplotlib.pyplot as plt
```

```
In [28]: Salary[0]
```

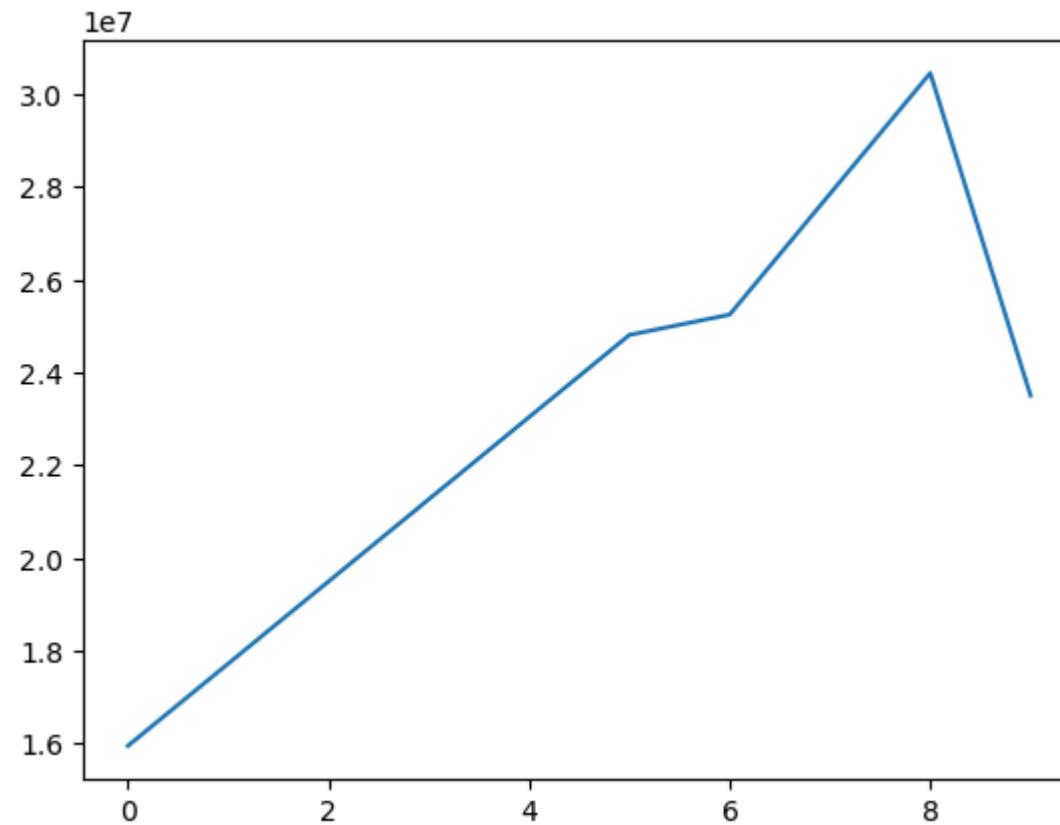
```
Out[28]: array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,  
25244493, 27849149, 30453805, 23500000])
```

```
In [29]: plt.plot(Salary[0])
```

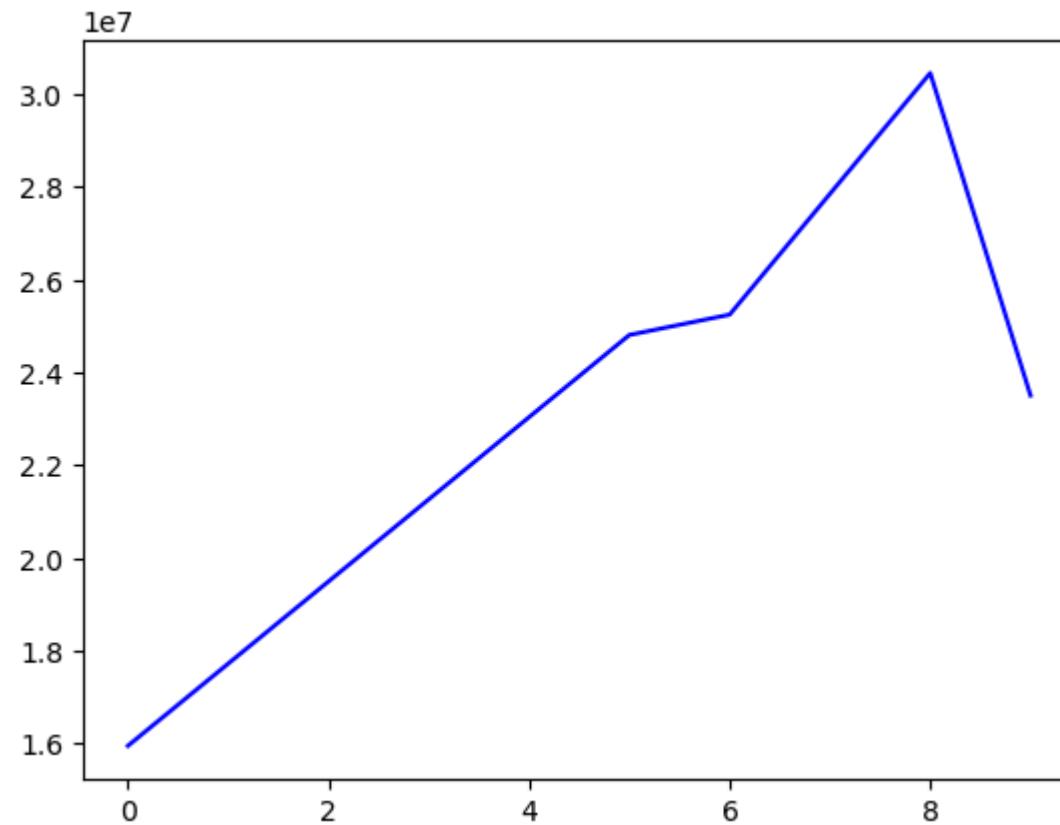
```
Out[29]: [<matplotlib.lines.Line2D at 0x16ee10b6d50>]
```



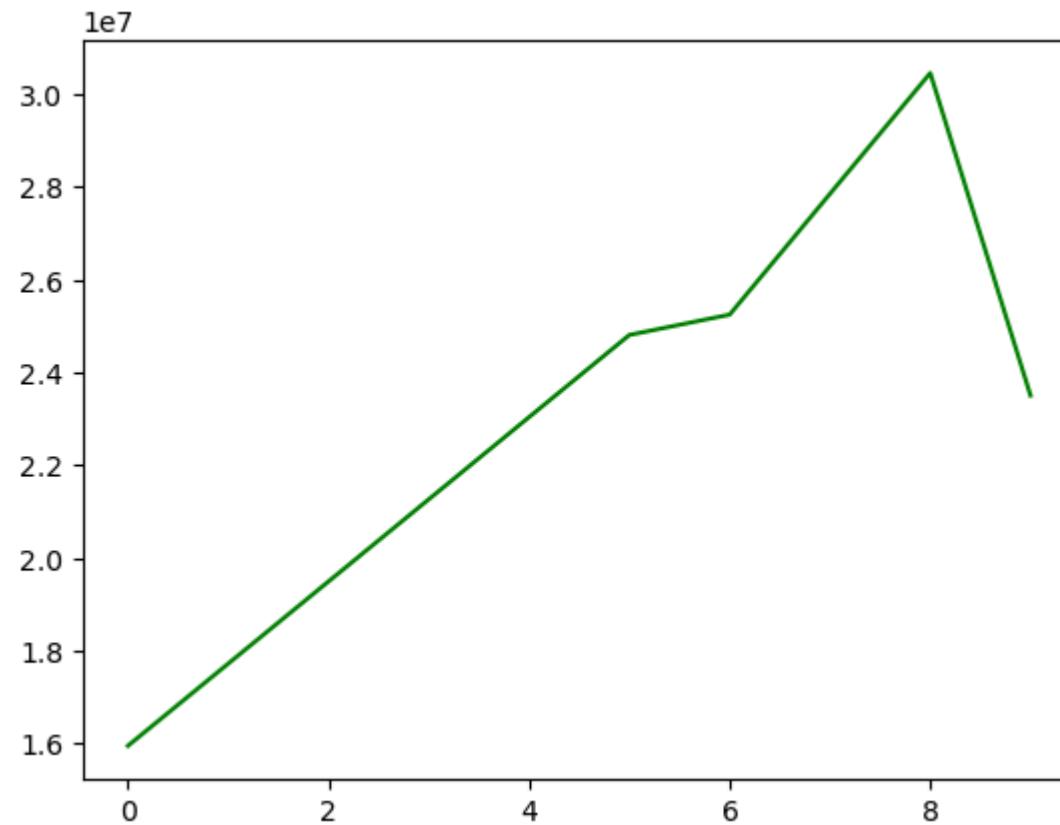
```
In [30]: plt.plot(Salary[0])
plt.show()
```



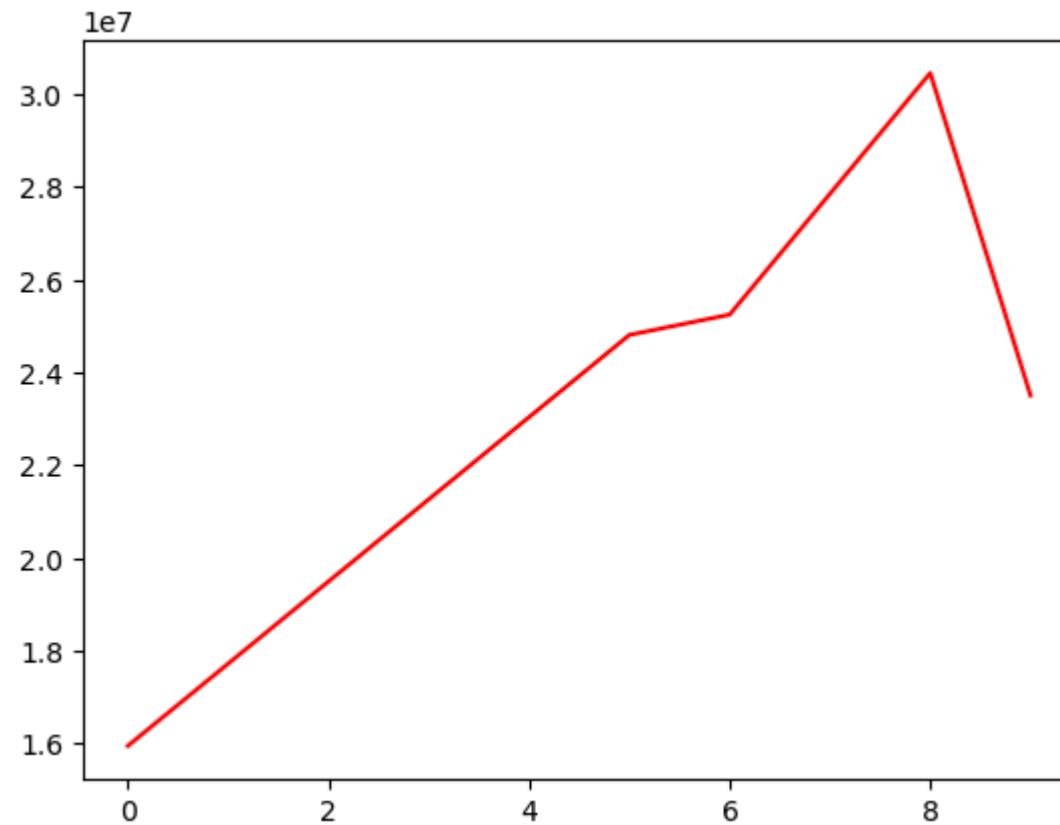
```
In [31]: plt.plot(Salary[0], color='blue')
plt.show()
```



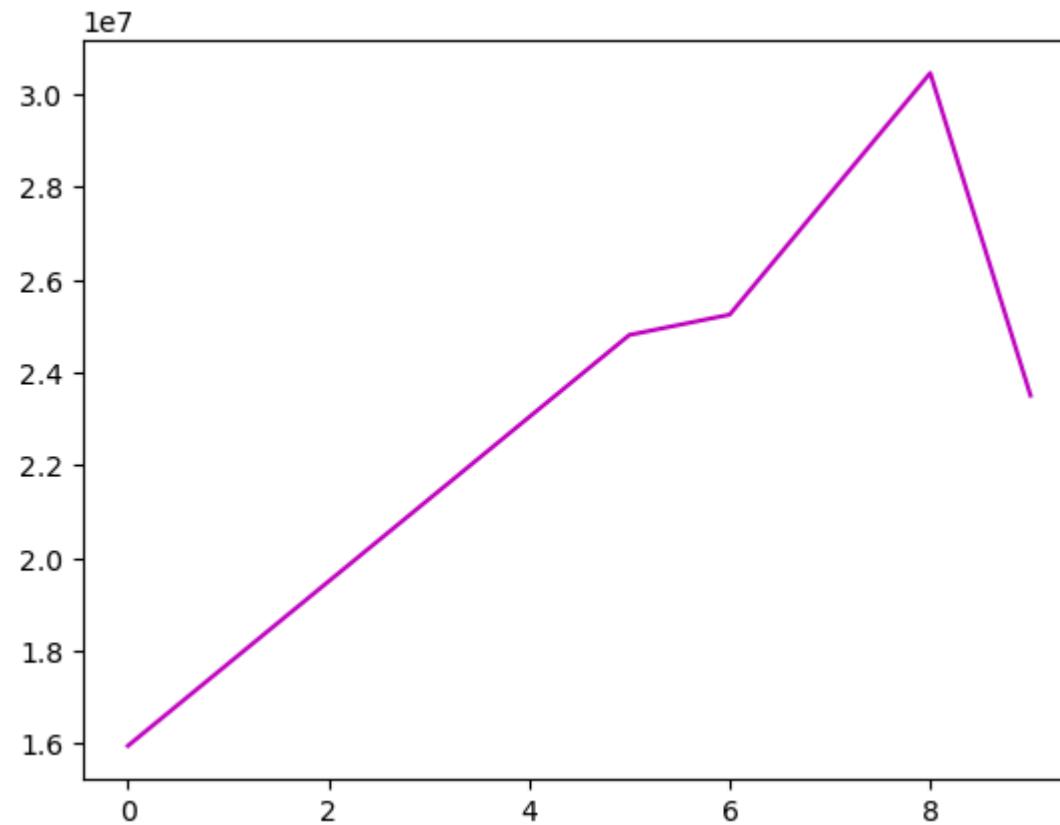
```
In [32]: plt.plot(Salary[0], color='Green')
plt.show()
```



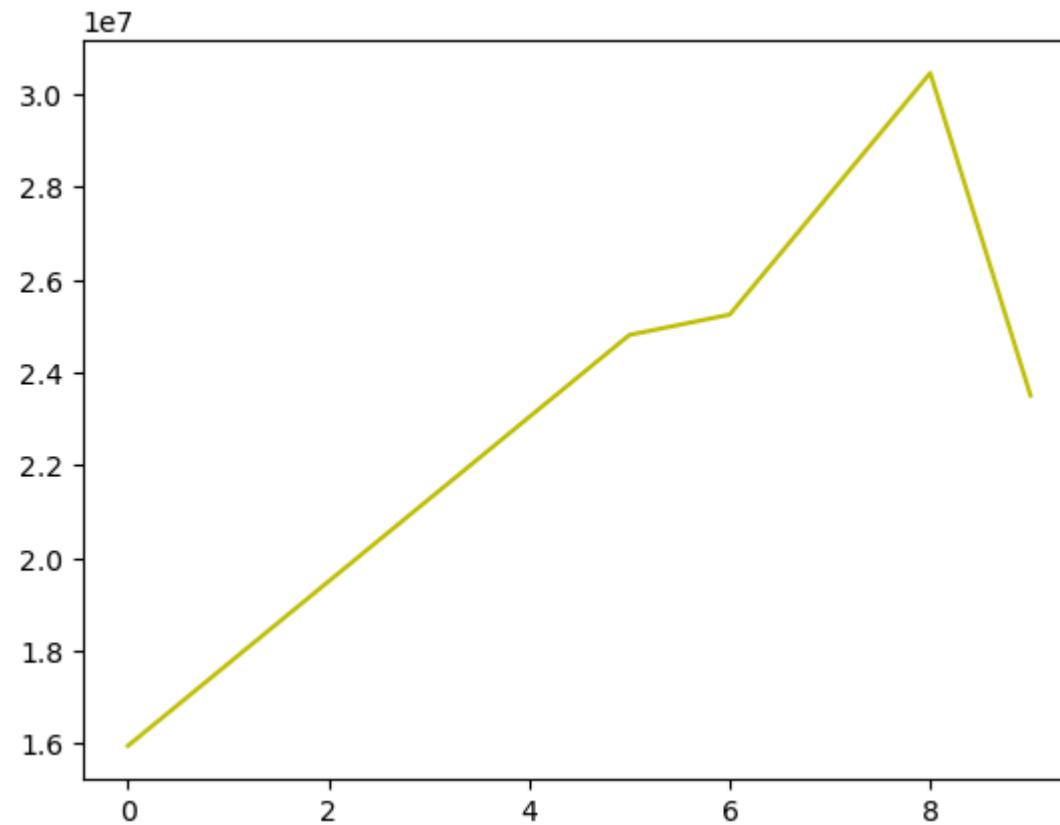
```
In [33]: plt.plot(Salary[0], c='r')
plt.show()
```



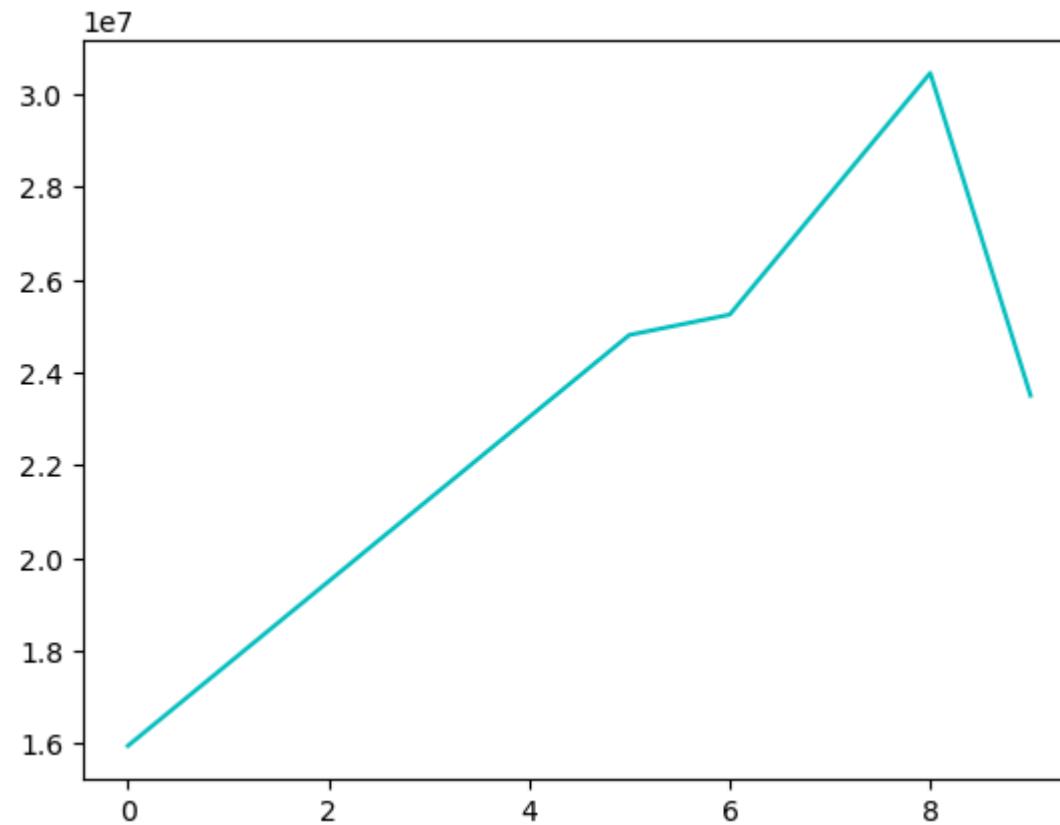
```
In [34]: plt.plot(Salary[0], c='m')
plt.show()
```



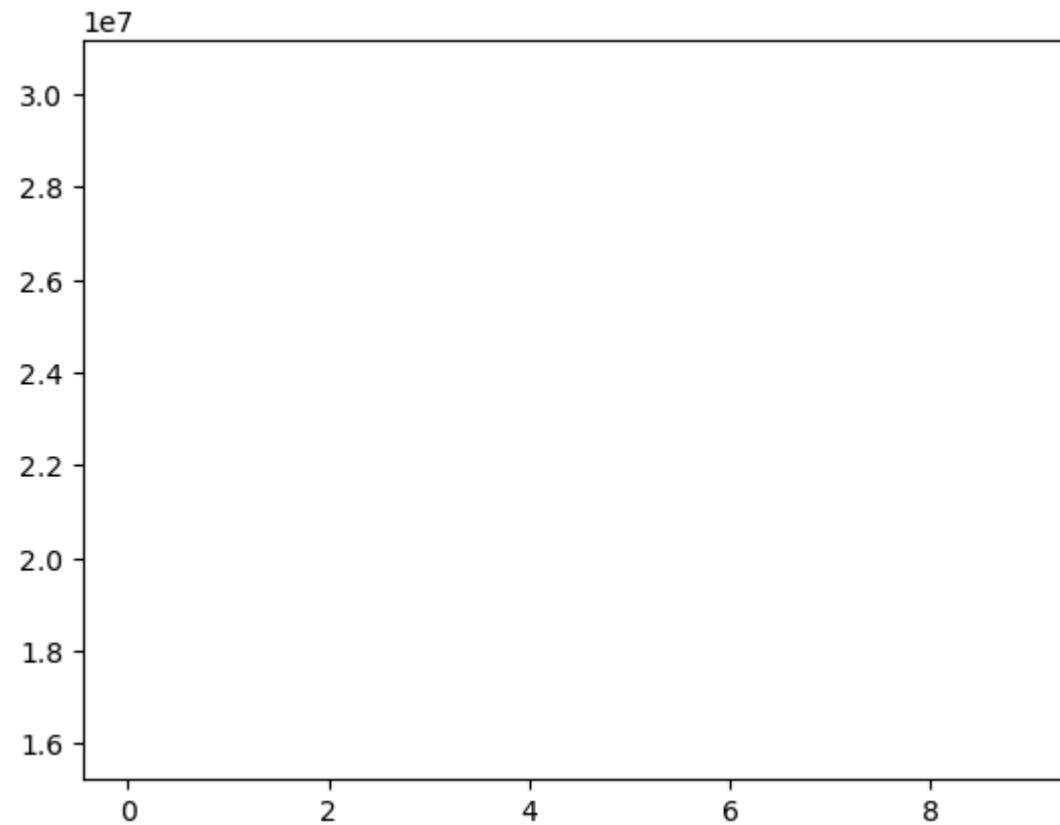
```
In [35]: plt.plot(Salary[0],c='y')
plt.show()
```



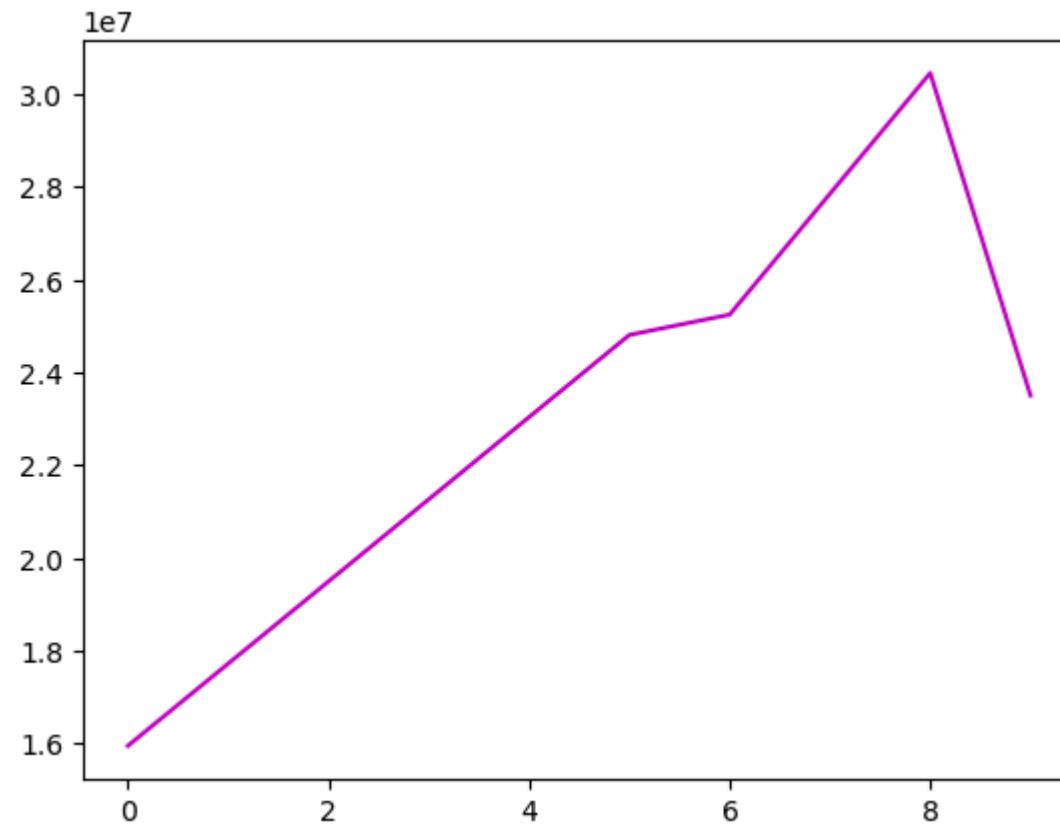
```
In [36]: plt.plot(Salary[0], c='c')
plt.show()
```



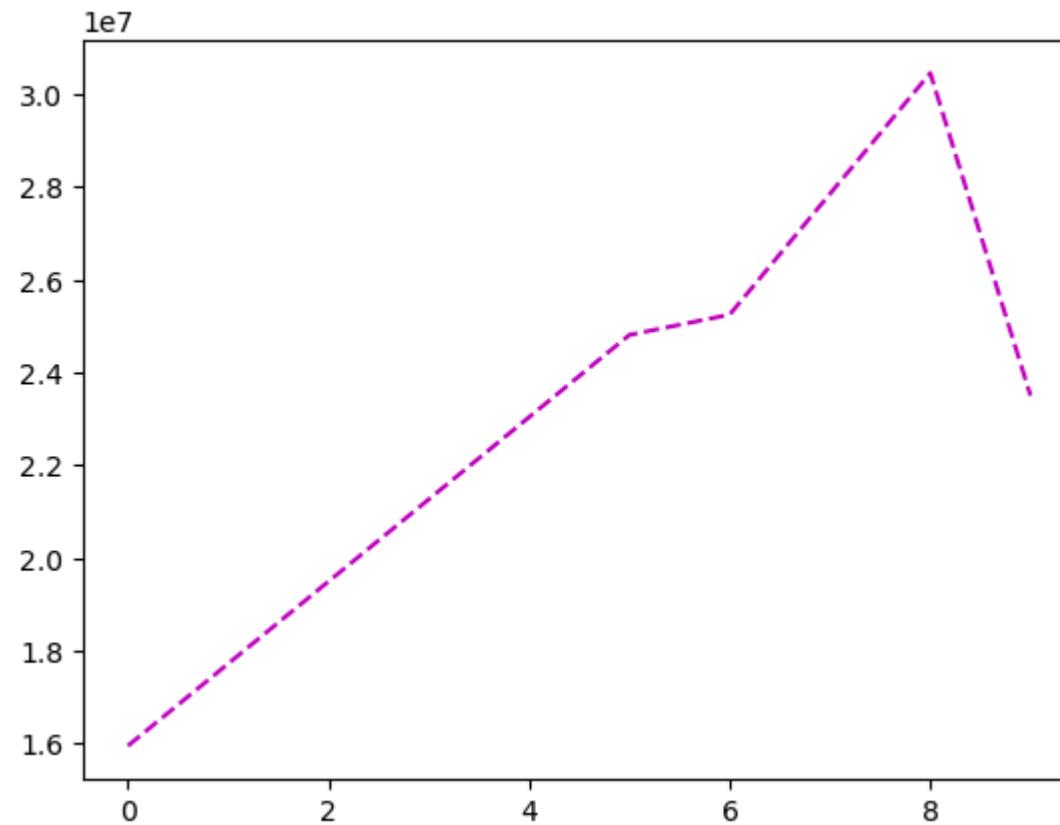
```
In [37]: plt.plot(Salary[0], c='w')
plt.show()
```



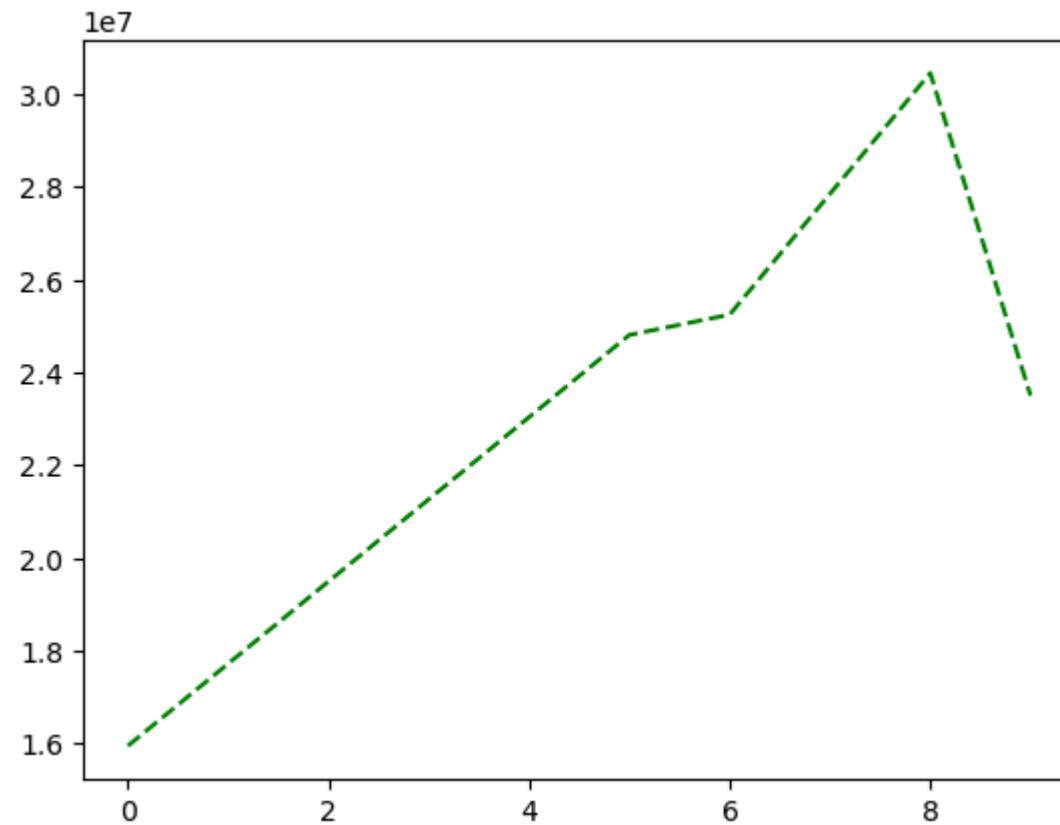
```
In [38]: plt.plot(Salary[0], c='m')
plt.show()
```



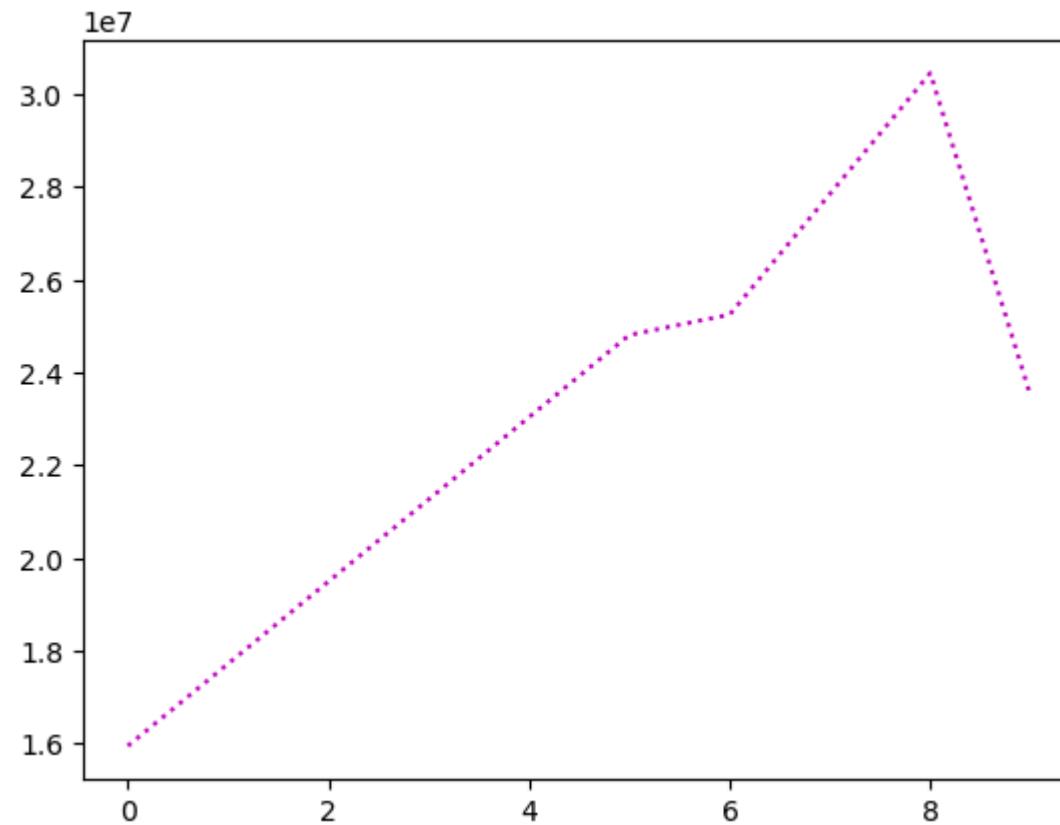
```
In [39]: plt.plot(Salary[0],c='m',ls = '--')
plt.show()
```



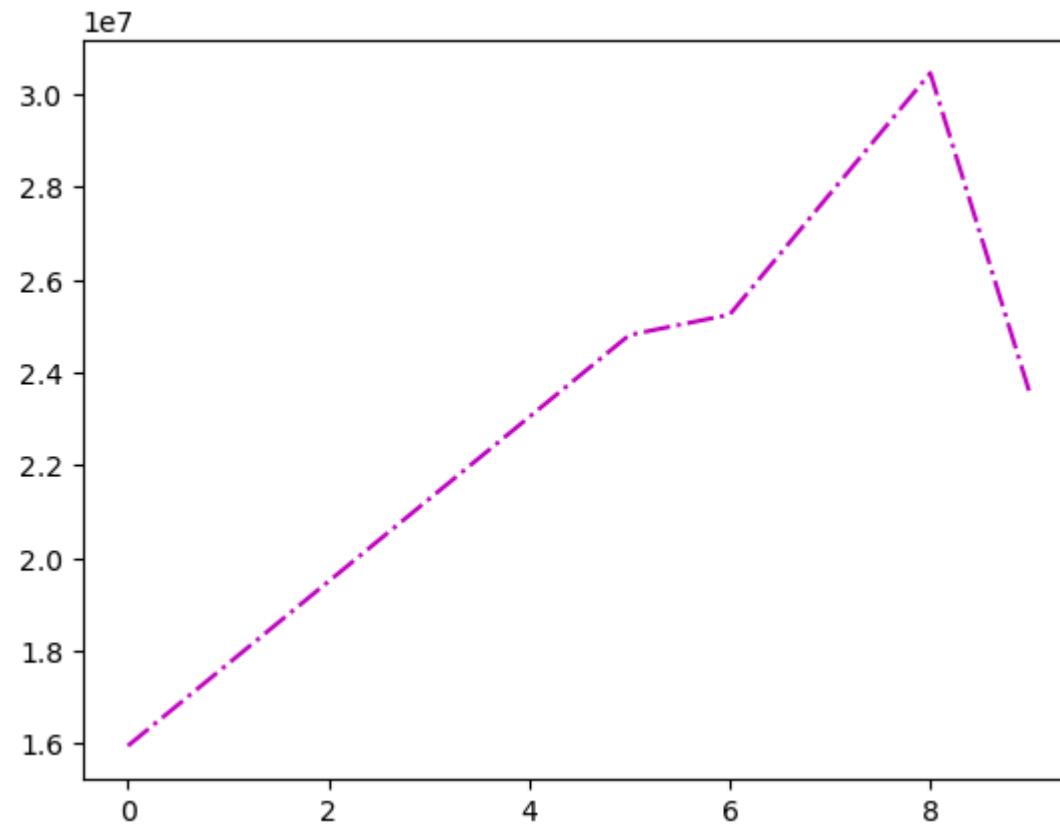
```
In [40]: plt.plot(Salary[0],c='g',ls = '--')
plt.show()
```



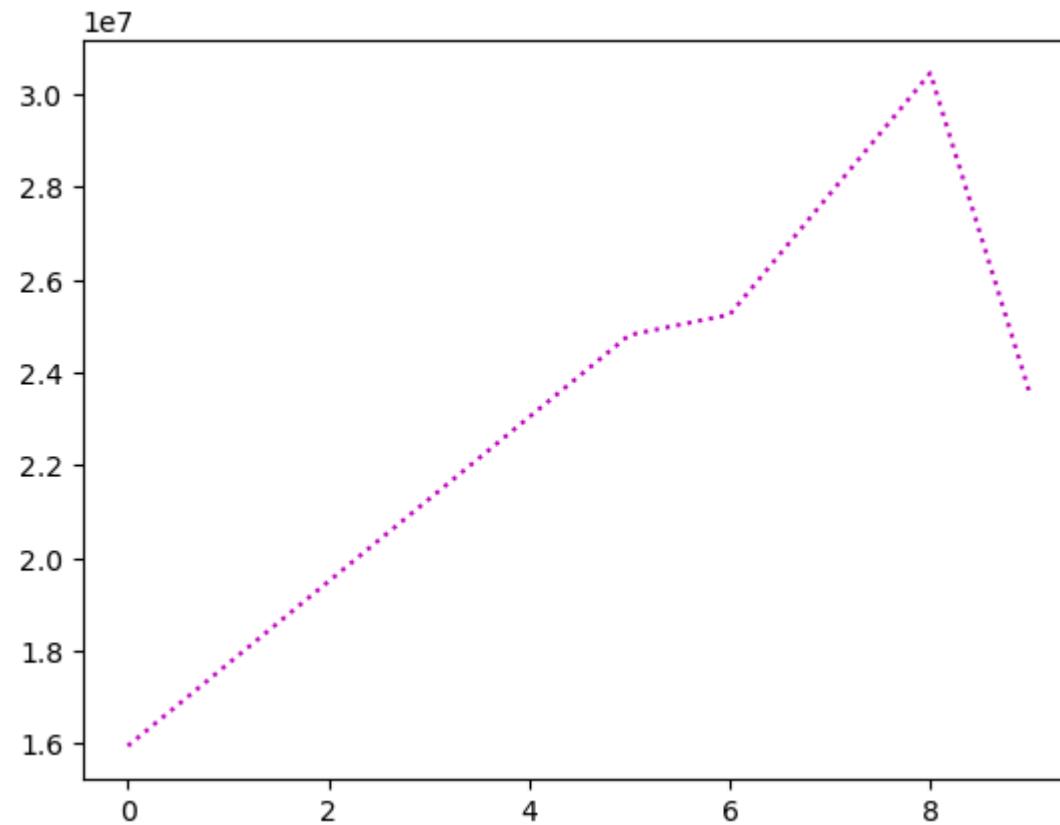
```
In [41]: plt.plot(Salary[0],c='m',ls = ':')  
plt.show()
```



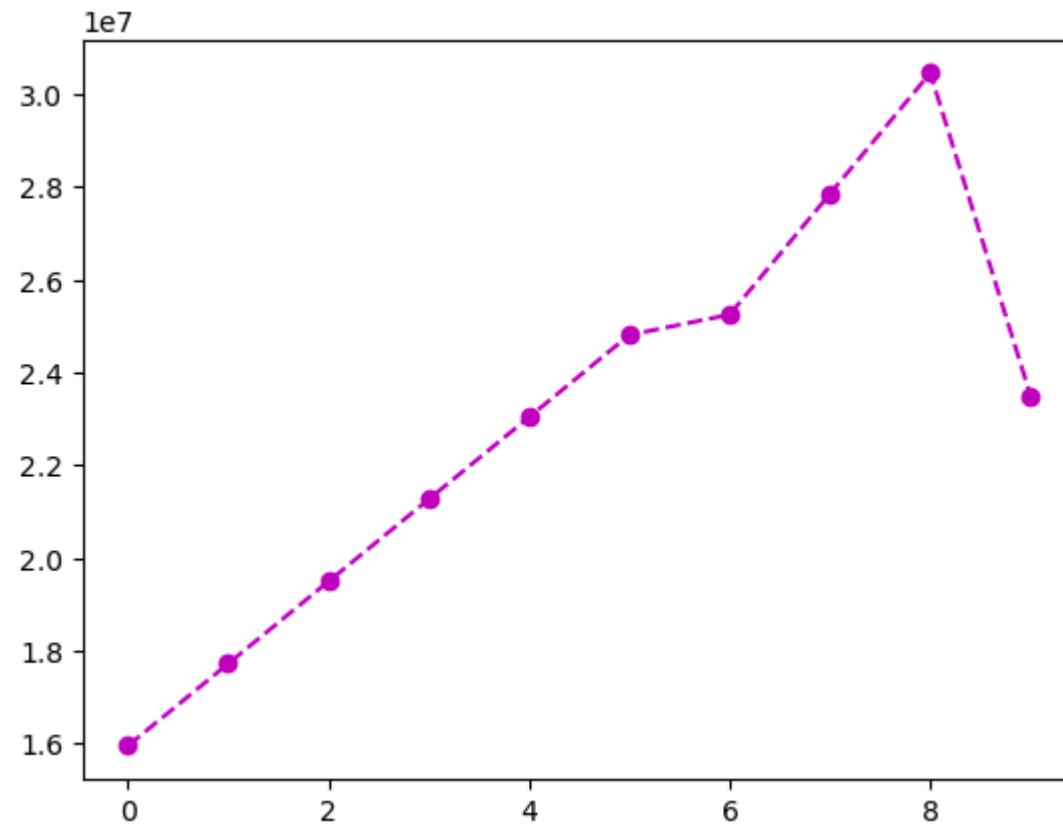
```
In [42]: plt.plot(Salary[0],c='m',ls = '-.')
```



```
In [43]: plt.plot(Salary[0],c='m',ls = ':')
plt.show()
```



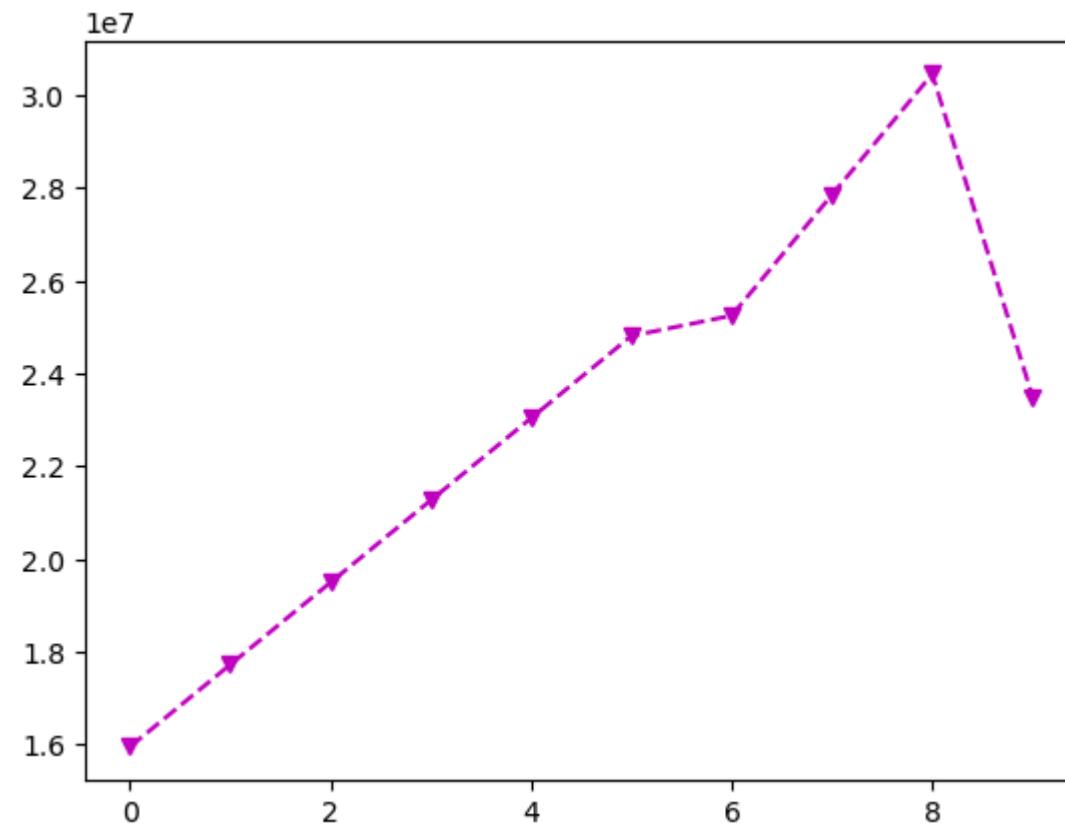
```
In [44]: plt.plot(Salary[0],c='m',ls = '--', marker ='o')  
plt.show()
```



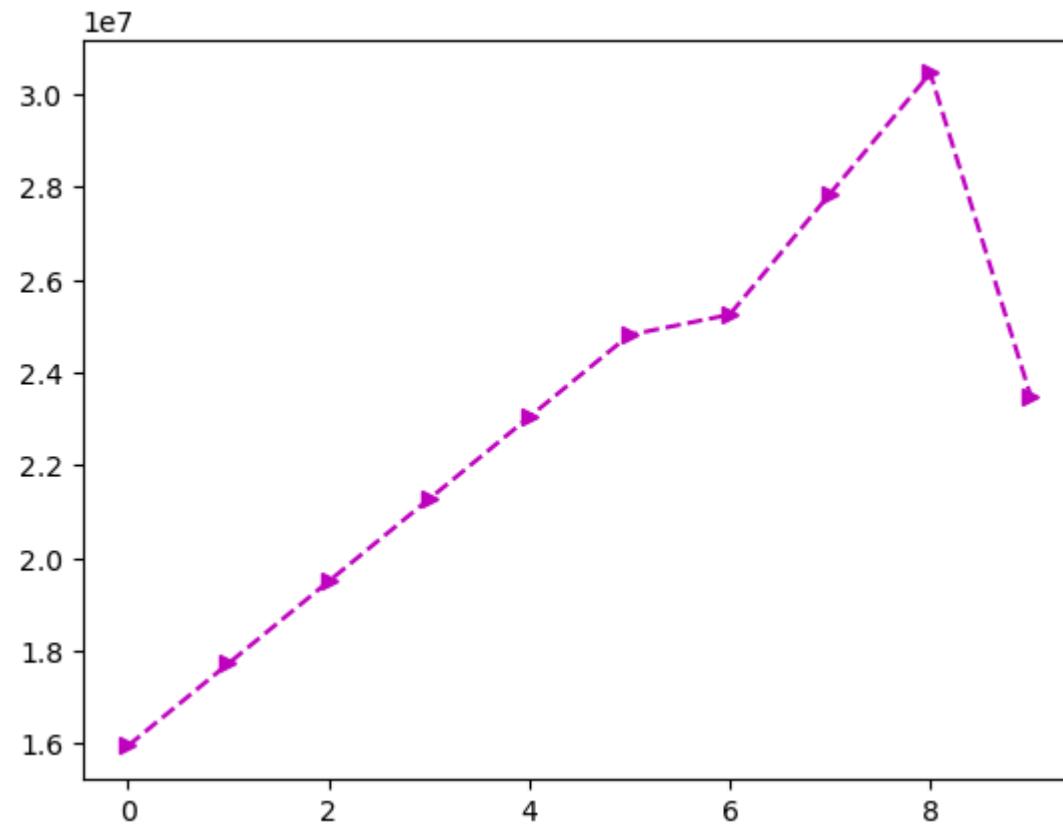
In [45]: Games

```
Out[45]: array([[80, 77, 82, 82, 73, 82, 58, 78,  6, 35],  
                 [82, 57, 82, 79, 76, 72, 60, 72, 79, 80],  
                 [79, 78, 75, 81, 76, 79, 62, 76, 77, 69],  
                 [80, 65, 77, 66, 69, 77, 55, 67, 77, 40],  
                 [82, 82, 82, 79, 82, 78, 54, 76, 71, 41],  
                 [70, 69, 67, 77, 70, 77, 57, 74, 79, 44],  
                 [78, 64, 80, 78, 45, 80, 60, 70, 62, 82],  
                 [35, 35, 80, 74, 82, 78, 66, 81, 81, 27],  
                 [40, 40, 40, 81, 78, 81, 39,  0, 10, 51],  
                 [75, 51, 51, 79, 77, 76, 49, 69, 54, 62]])
```

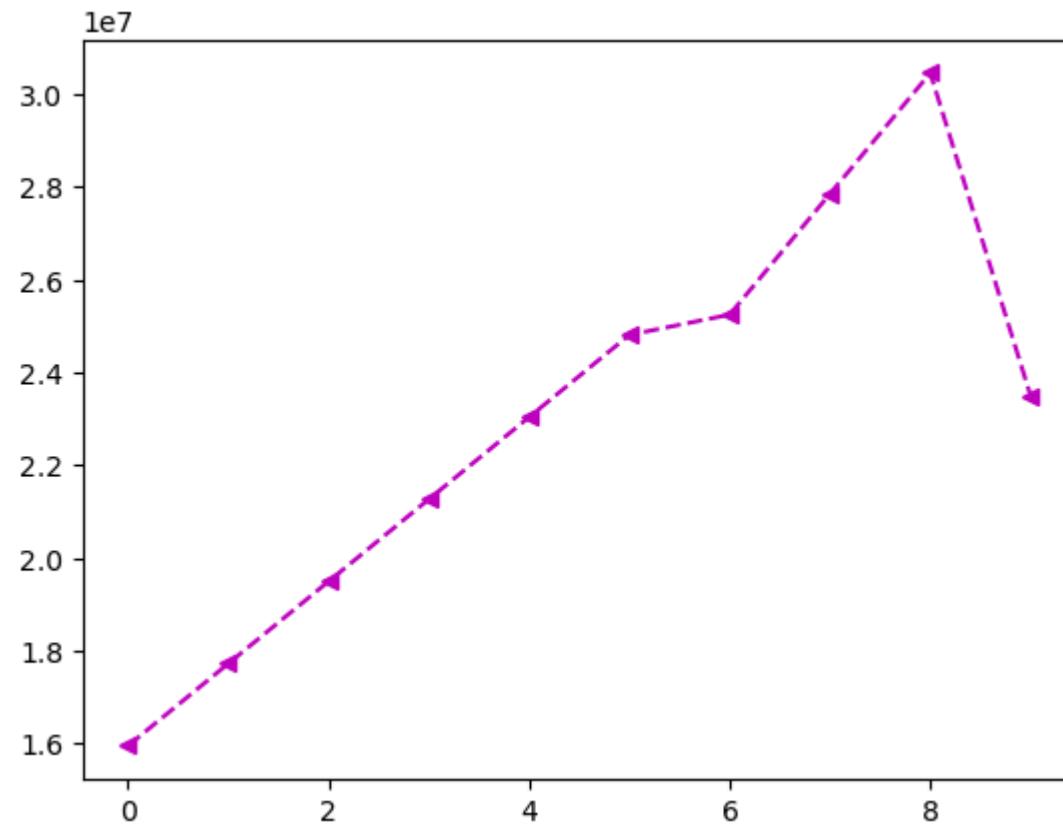
```
In [46]: plt.plot(Salary[0],c='m',ls = '--', marker ='v')  
plt.show()
```



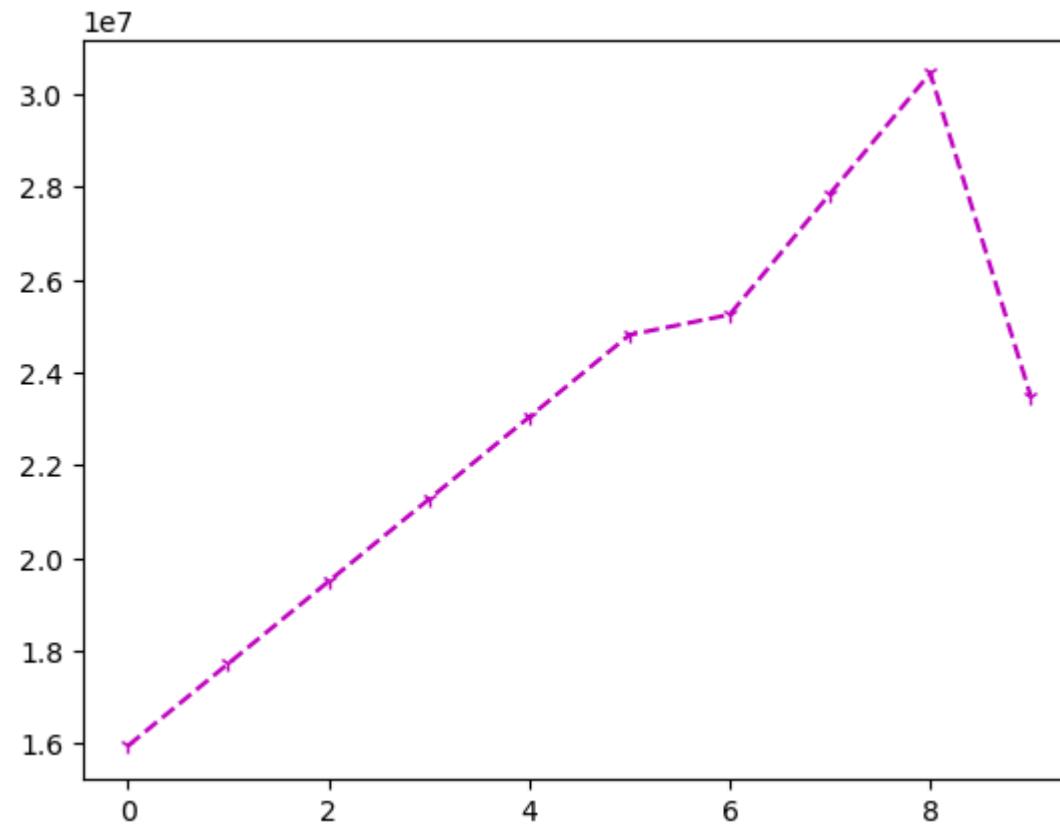
```
In [47]: plt.plot(Salary[0],c='m',ls = '--', marker ='>')  
plt.show()
```



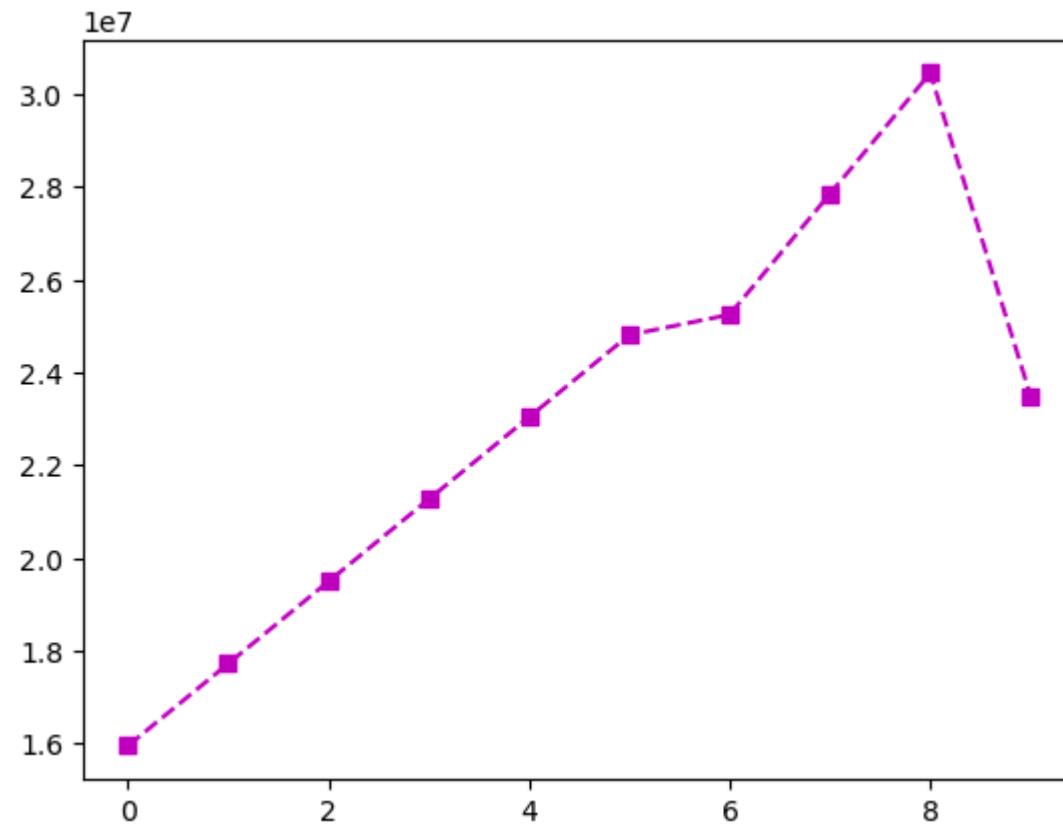
```
In [48]: plt.plot(Salary[0],c='m',ls = '--', marker = '<')
plt.show()
```



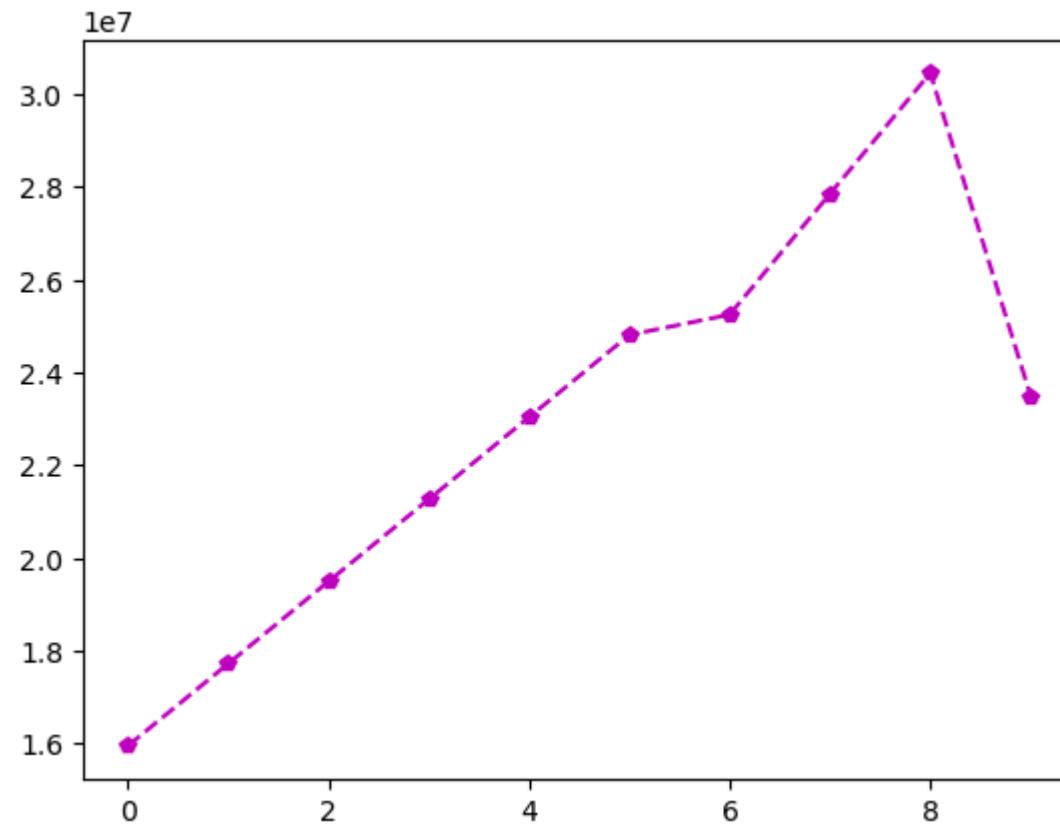
```
In [49]: plt.plot(Salary[0],c='m',ls = '--', marker ='1')
plt.show()
```



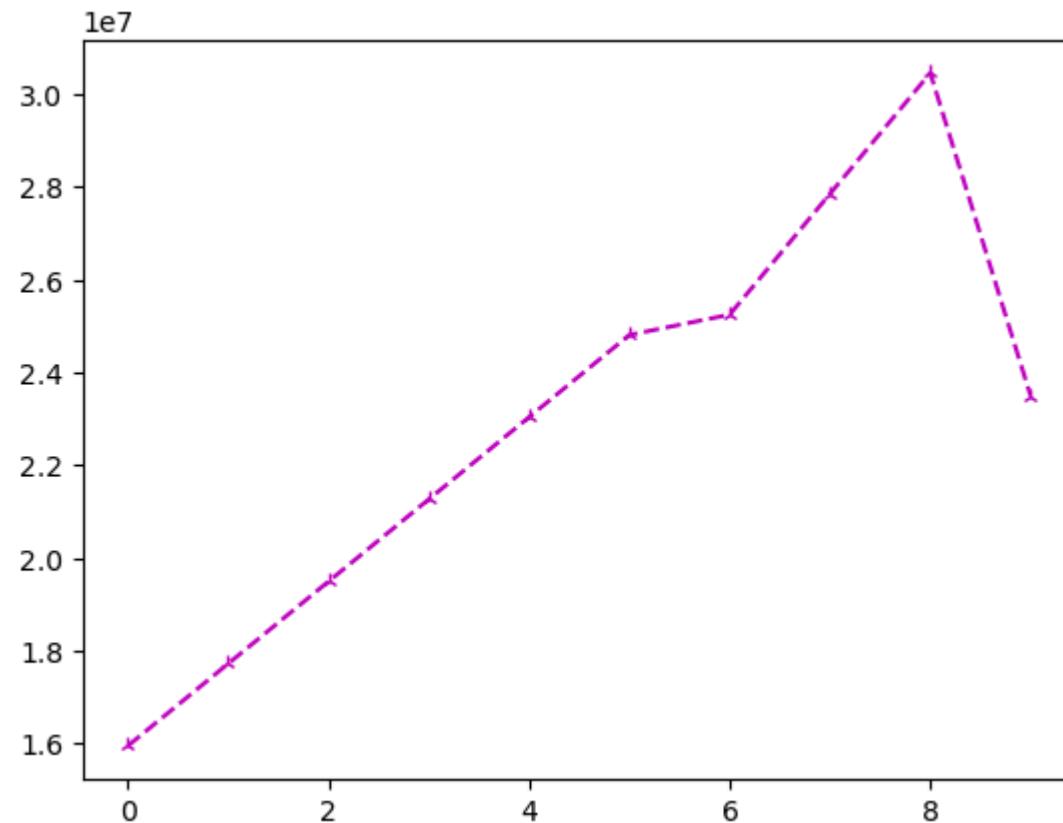
```
In [50]: plt.plot(Salary[0],c='m',ls = '--', marker ='s')  
plt.show()
```



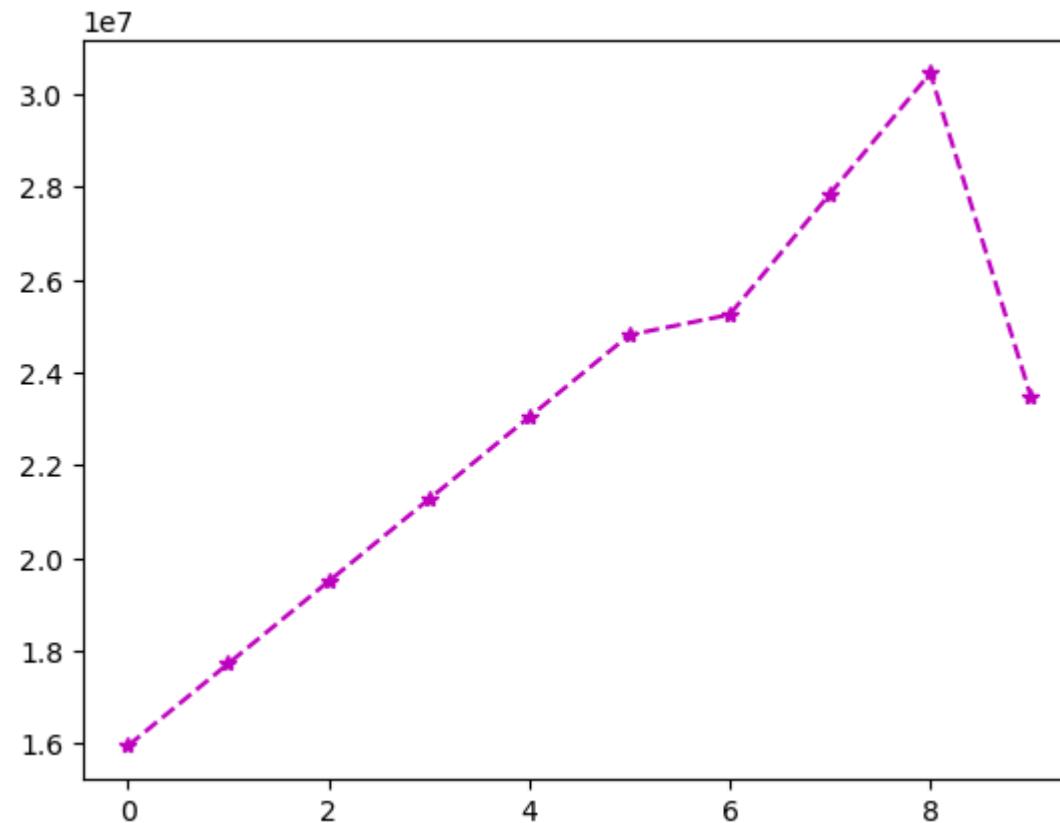
```
In [51]: plt.plot(Salary[0],c='m',ls = '--', marker ='p')
plt.show()
```



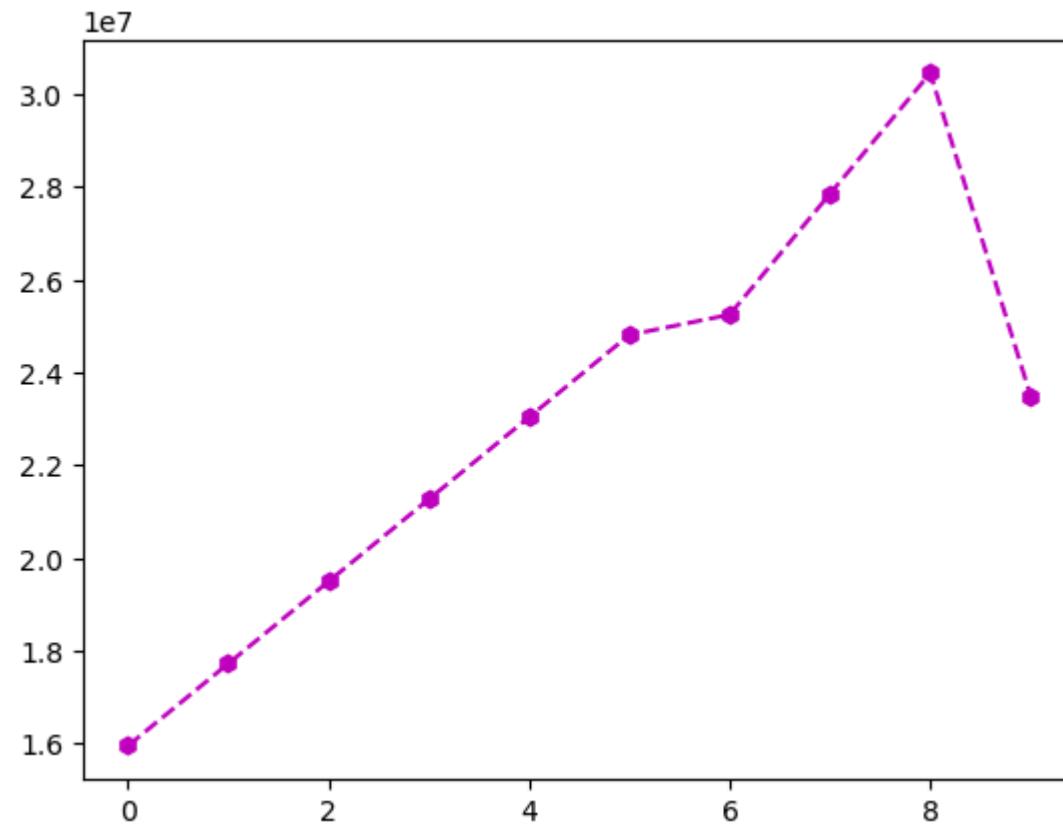
```
In [52]: plt.plot(Salary[0],c='m',ls = '--', marker ='2')
plt.show()
```



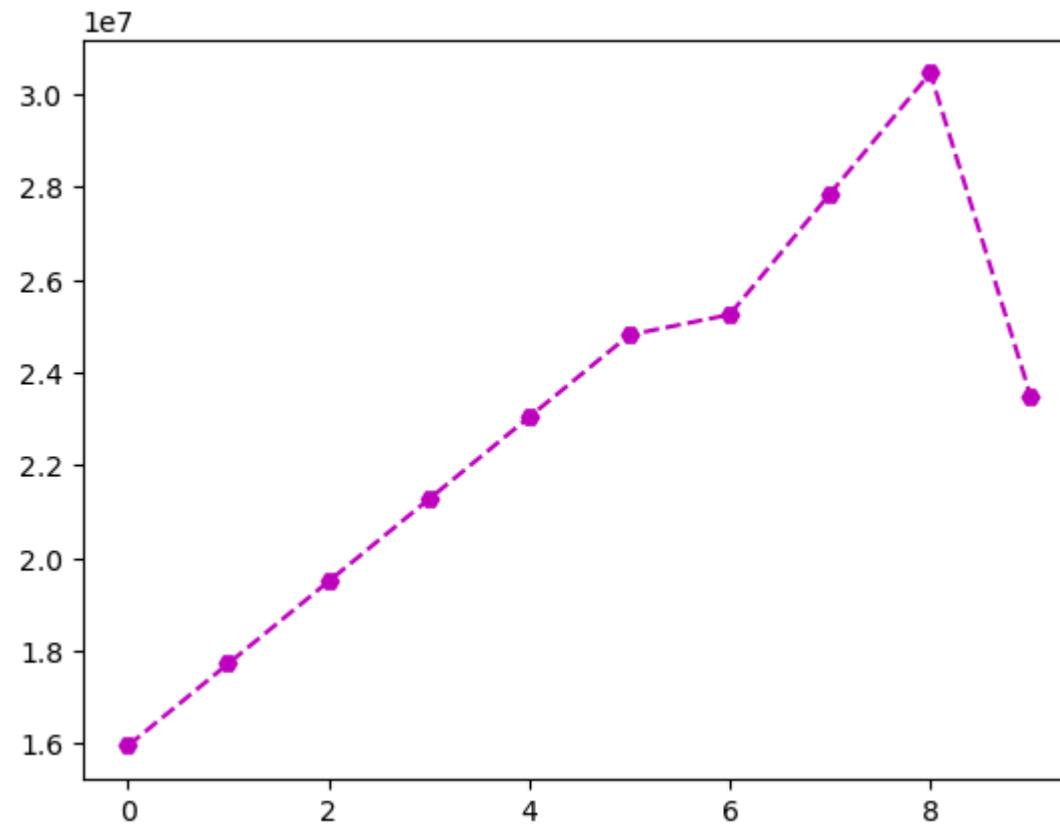
```
In [53]: plt.plot(Salary[0],c='m',ls = '--', marker ='*')
plt.show()
```



```
In [54]: plt.plot(Salary[0],c='m',ls = '--', marker ='h')
plt.show()
```



```
In [55]: plt.plot(Salary[0],c='m',ls = '--', marker ='H')  
plt.show()
```



```
In [56]: list(range(0,10))
```

```
Out[56]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

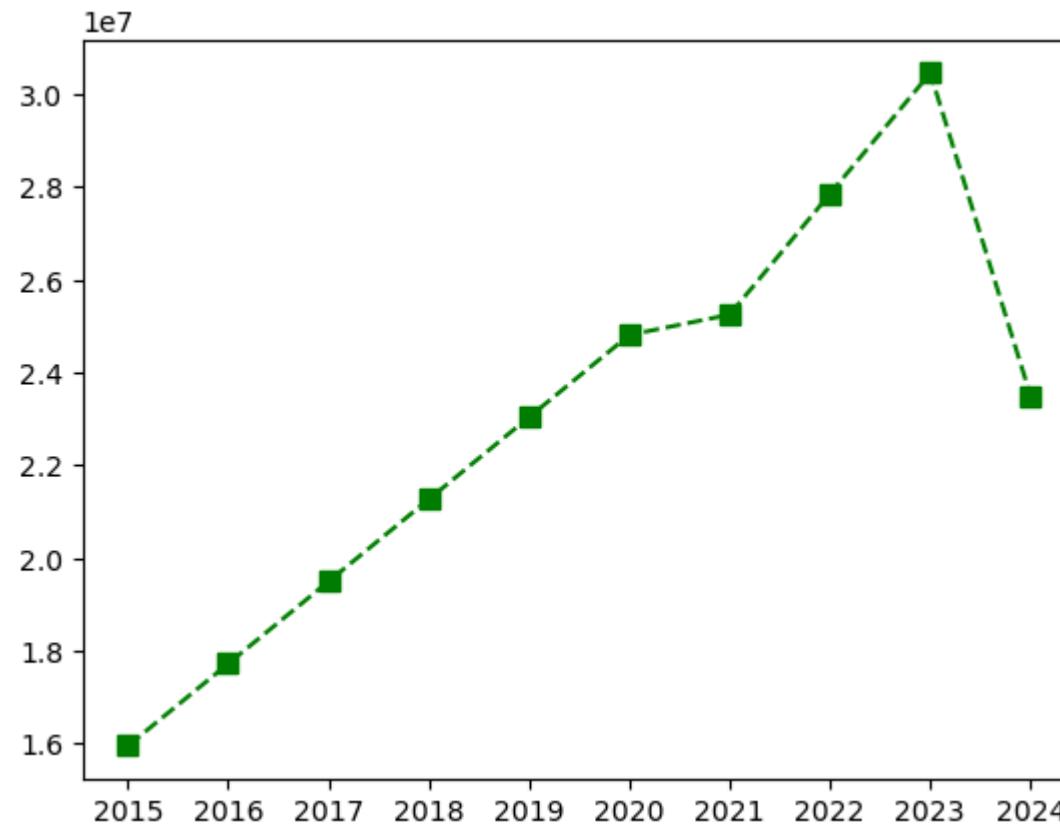
```
In [58]: Sdict
```

```
Out[58]: {'2015': 0,  
          '2016': 1,  
          '2017': 2,  
          '2018': 3,  
          '2019': 4,  
          '2020': 5,  
          '2021': 6,  
          '2022': 7,  
          '2023': 8,  
          '2024': 9}
```

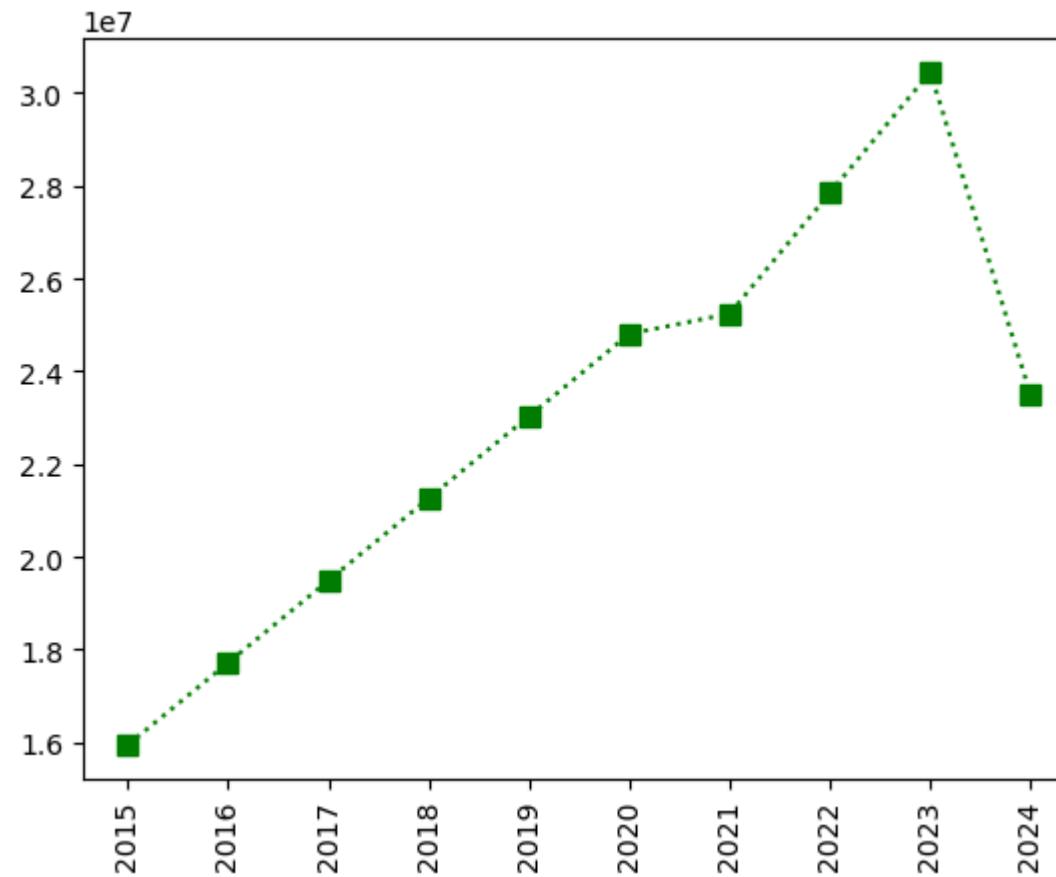
```
In [57]: Pdict
```

```
Out[57]: {'Sachin': 0,  
          'Rahul': 1,  
          'Smith': 2,  
          'Sami': 3,  
          'Pollard': 4,  
          'Morris': 5,  
          'Samson': 6,  
          'Dhoni': 7,  
          'Kohli': 8,  
          'Sky': 9}
```

```
In [59]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7)  
plt.xticks(list(range(0,10)), Seasons)  
plt.show()
```



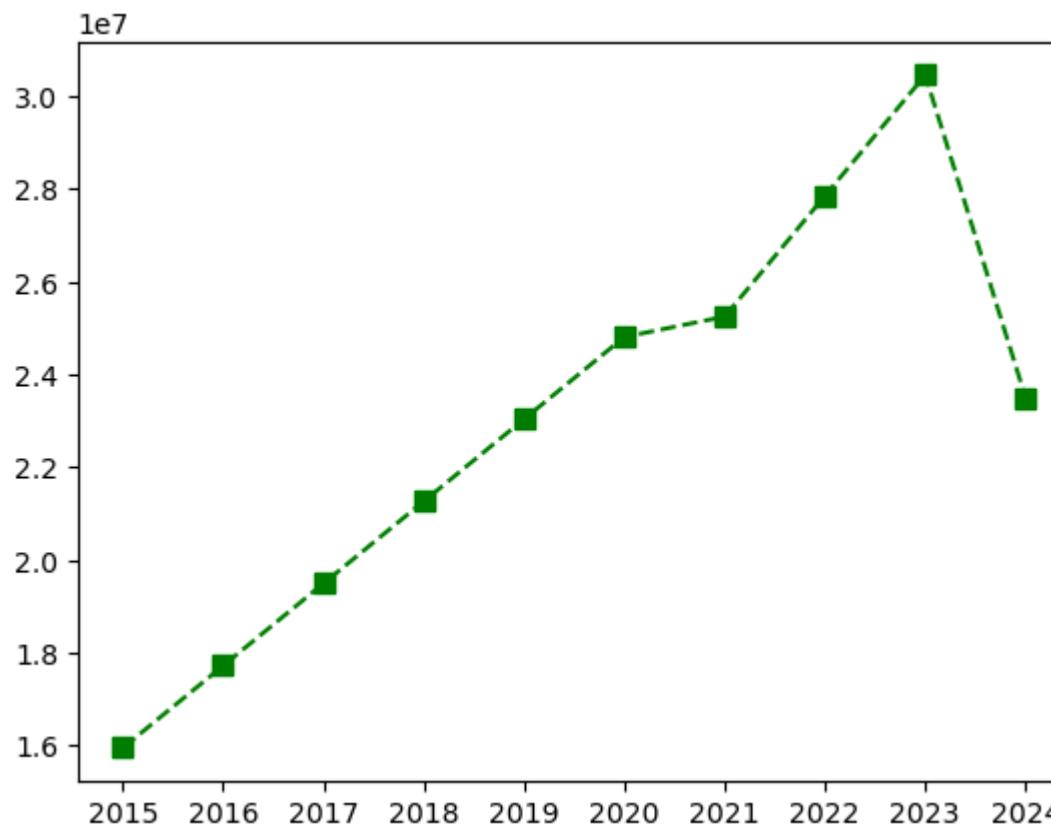
```
In [60]: plt.plot(Salary[0], c='Green', ls = ':', marker = 's', ms = 7, label = Players[0])
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')
plt.show()
```



In [61]: Games

```
Out[61]: array([[80, 77, 82, 82, 73, 82, 58, 78, 6, 35],  
[82, 57, 82, 79, 76, 72, 60, 72, 79, 80],  
[79, 78, 75, 81, 76, 79, 62, 76, 77, 69],  
[80, 65, 77, 66, 69, 77, 55, 67, 77, 40],  
[82, 82, 82, 79, 82, 78, 54, 76, 71, 41],  
[70, 69, 67, 77, 70, 77, 57, 74, 79, 44],  
[78, 64, 80, 78, 45, 80, 60, 70, 62, 82],  
[35, 35, 80, 74, 82, 78, 66, 81, 81, 27],  
[40, 40, 40, 81, 78, 81, 39, 0, 10, 51],  
[75, 51, 51, 79, 77, 76, 49, 69, 54, 62]])
```

```
In [62]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.xticks(list(range(0,10)), Seasons, rotation='horizontal')
plt.show()
```



```
In [63]: Salary[0]
```

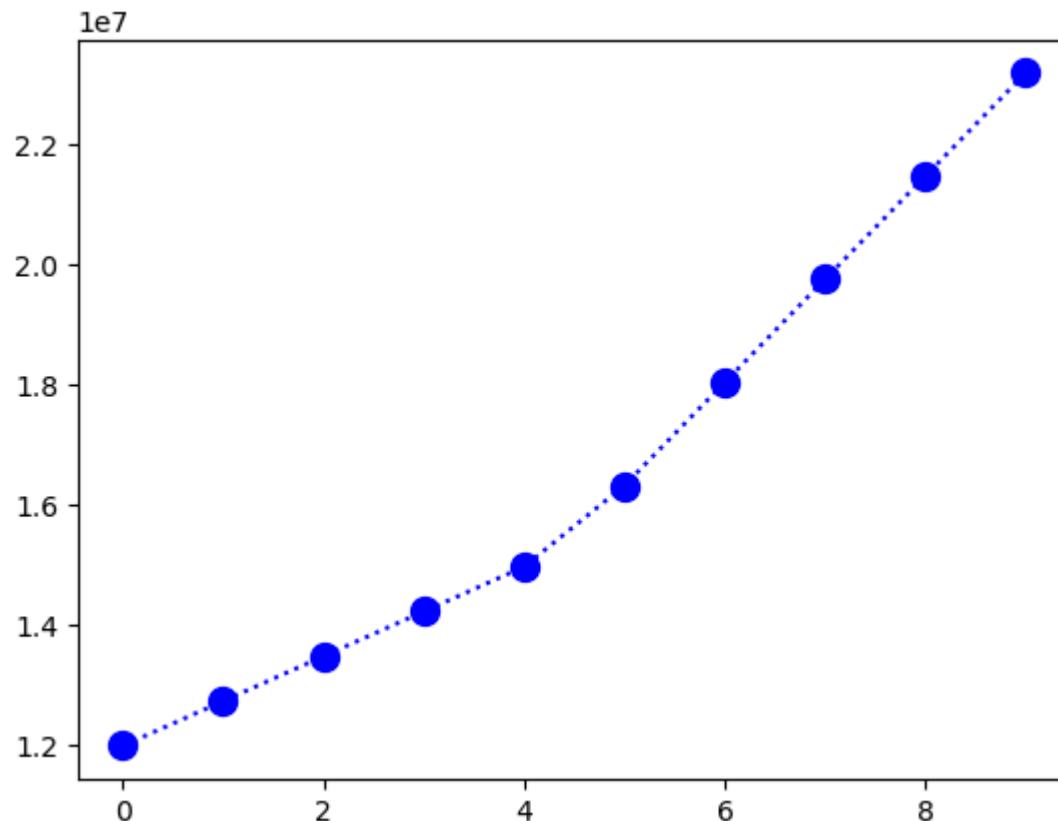
```
Out[63]: array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
 25244493, 27849149, 30453805, 23500000])
```

```
In [64]: Salary[1]
```

```
Out[64]: array([12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
 18038573, 19752645, 21466718, 23180790])
```

```
In [65]: plt.plot(Salary[1], c='Blue', ls = ':', marker = 'o', ms = 10, label = Players[1])
```

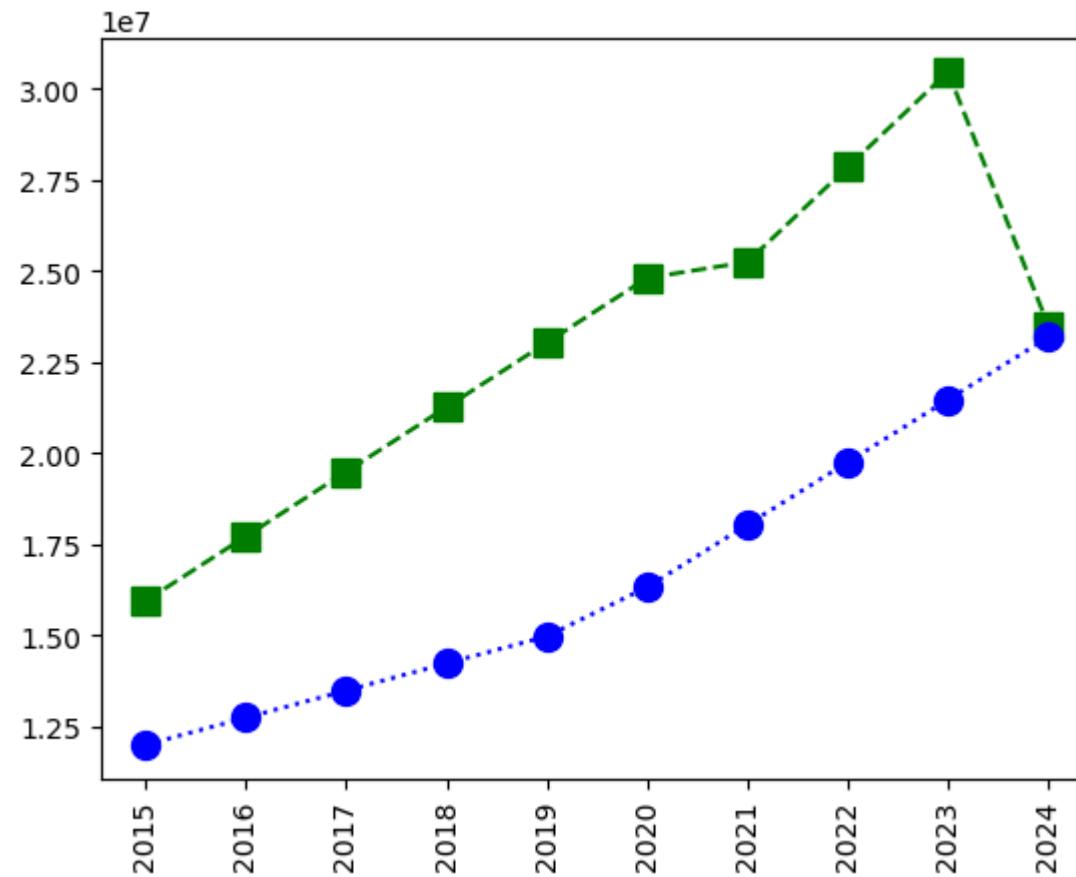
```
Out[65]: [
```



```
In [66]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = ':', marker = 'o', ms = 10, label = Players[1])

plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

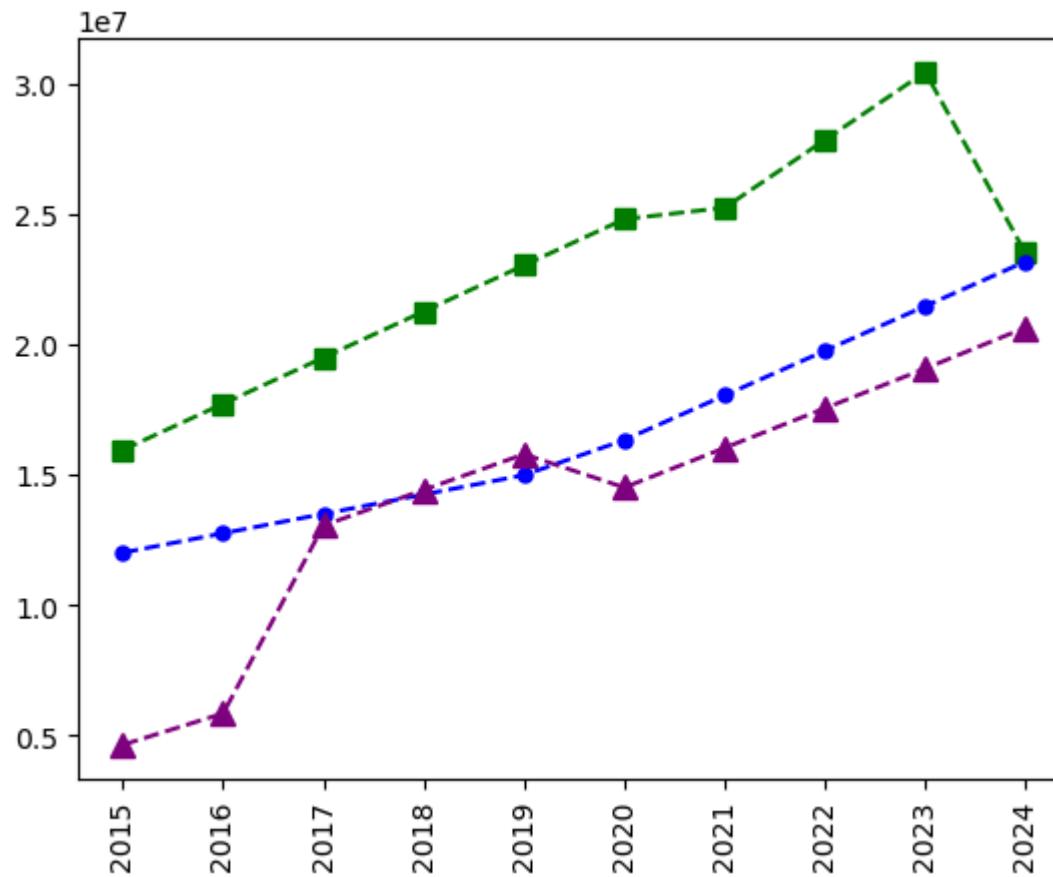
plt.show()
```



```
In [67]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 5, label = Players[1])
plt.plot(Salary[2], c='purple', ls = '--', marker = '^', ms = 8, label = Players[2])

plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

plt.show()
```

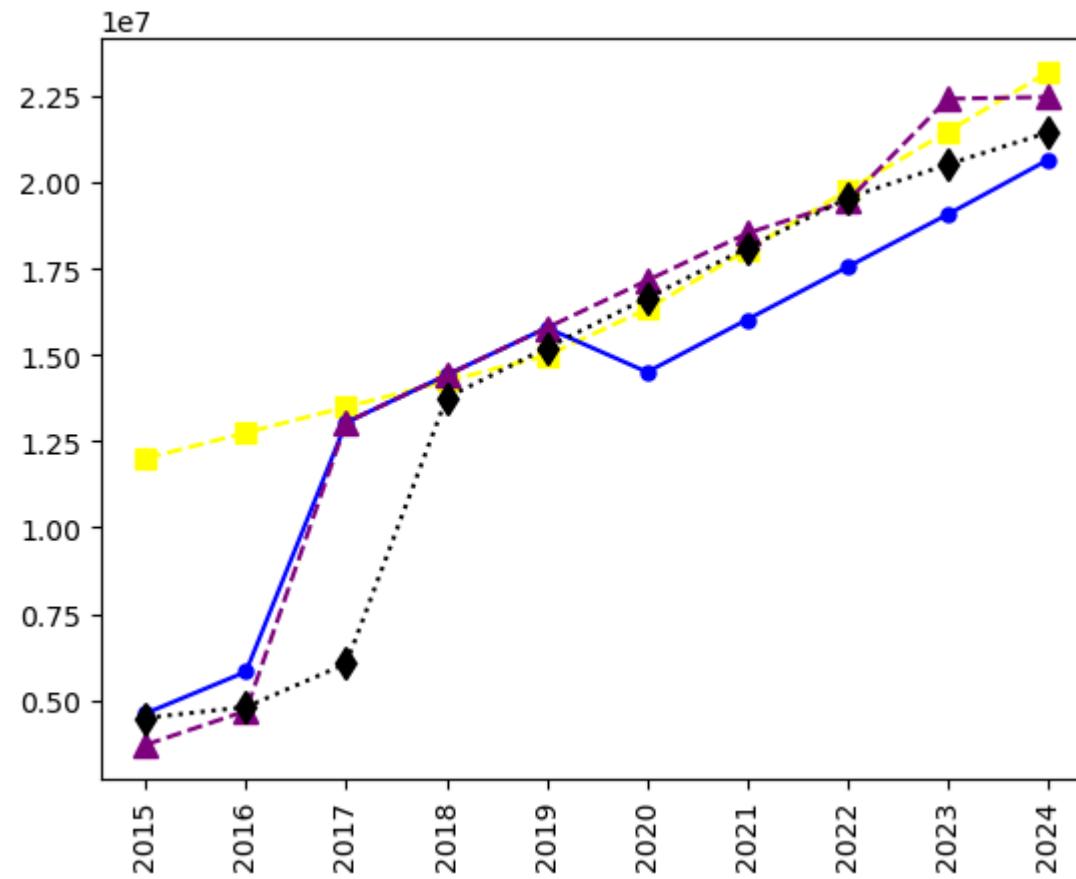


```
In [70]: # plt.title('Player Salary Trends Over the Seasons')
```

```
plt.plot(Salary[1], c='Yellow', ls = '--', marker = 's', ms = 7, label = Players[1])
plt.plot(Salary[2], c='Blue', ls = '-.', marker = 'o', ms = 5, label = Players[2])
plt.plot(Salary[3], c='purple', ls = '--', marker = '^', ms = 8, label = Players[3])
plt.plot(Salary[4], c='Black', ls = ':', marker = 'd', ms = 8, label = Players[4])

plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

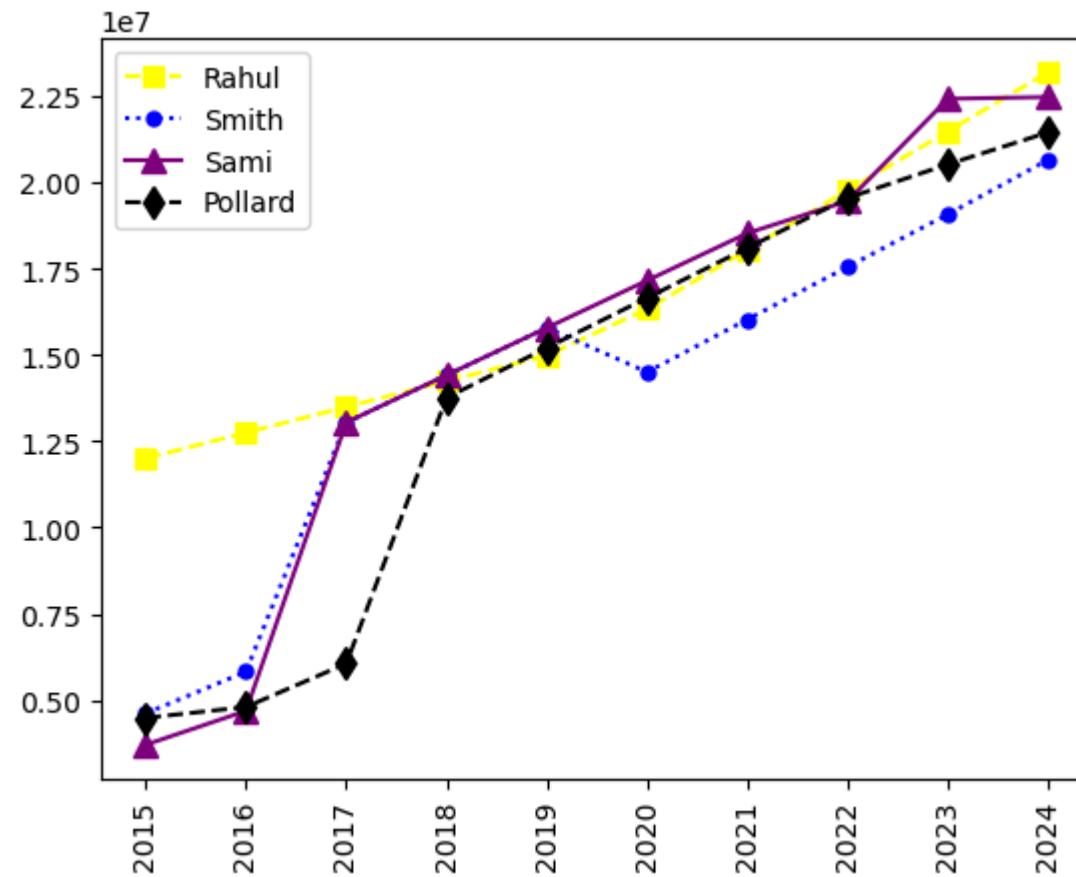
plt.show()
```



In [72]: # how to add legend in visualisation

```
plt.plot(Salary[1], c='Yellow', ls = '--', marker = 's', ms = 7, label = Players[1])
plt.plot(Salary[2], c='Blue', ls = ':', marker = 'o', ms = 5, label = Players[2])
plt.plot(Salary[3], c='purple', ls = '-.', marker = '^', ms = 8, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 'd', ms = 8, label = Players[4])
plt.legend()
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

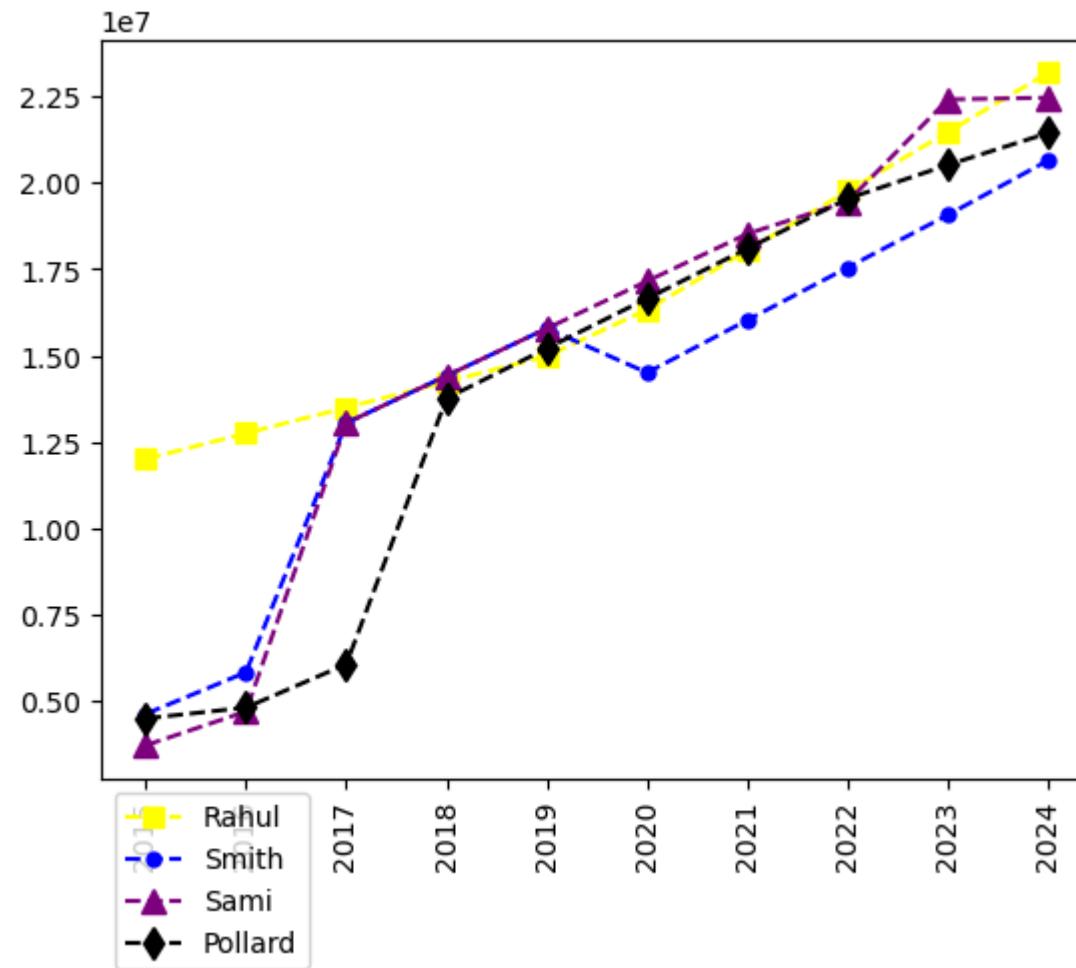
plt.show()
```



```
In [73]: #plt.title('Player Salary Trends Over the Seasons')
```

```
plt.plot(Salary[1], c='Yellow', ls = '--', marker = 's', ms = 7, label = Players[1])
plt.plot(Salary[2], c='Blue', ls = '--', marker = 'o', ms = 5, label = Players[2])
plt.plot(Salary[3], c='purple', ls = '--', marker = '^', ms = 8, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 'd', ms = 8, label = Players[4])
plt.legend(loc = 'upper left',bbox_to_anchor=(0,0) )
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')

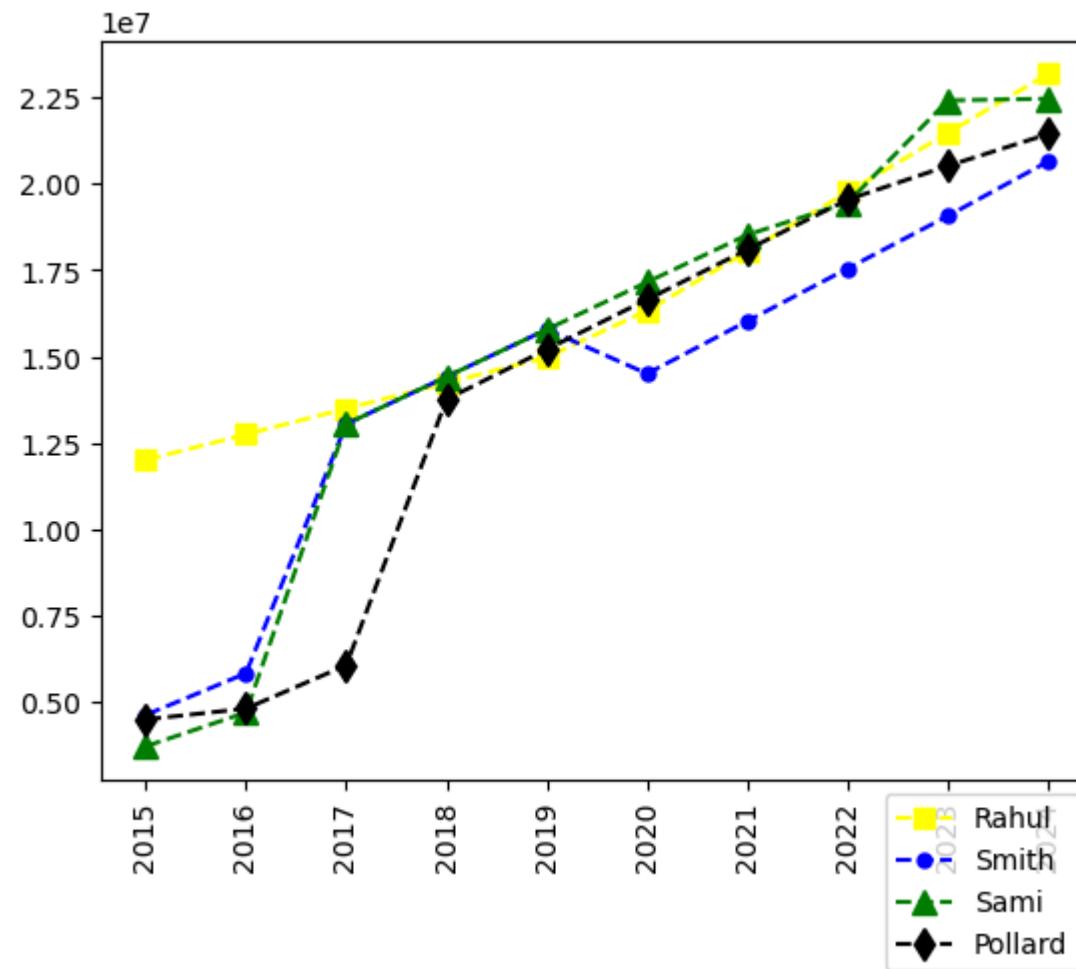
plt.show()
```



```
In [74]: # plt.title('Player Salary Trends Over the Seasons')
```

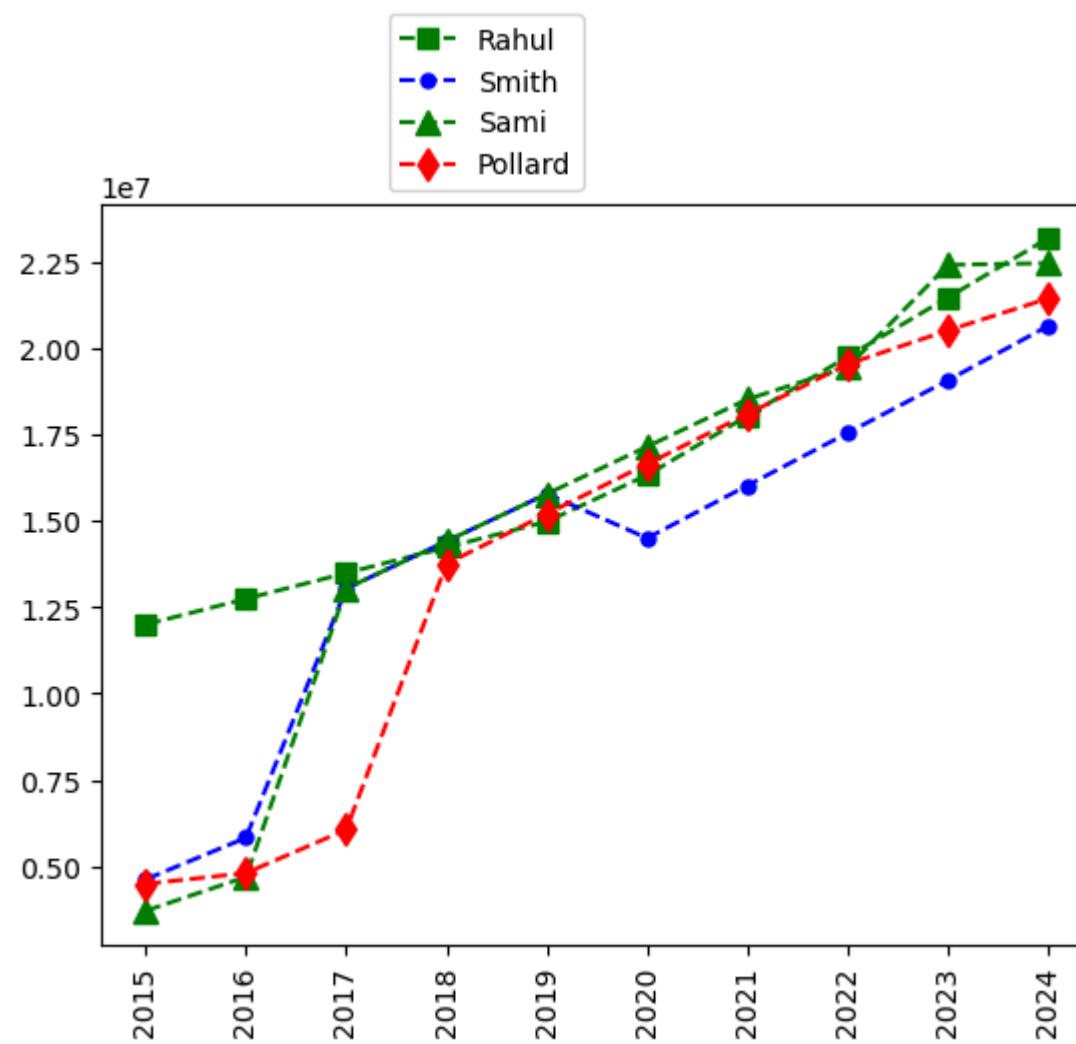
```
plt.plot(Salary[1], c='Yellow', ls = '--', marker = 's', ms = 7, label = Players[1])
plt.plot(Salary[2], c='Blue', ls = '--', marker = 'o', ms = 5, label = Players[2])
plt.plot(Salary[3], c='Green', ls = '--', marker = '^', ms = 8, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 'd', ms = 8, label = Players[4])
plt.legend(loc = 'upper right',bbox_to_anchor=(1,0) )
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
```

```
plt.show()
```



```
In [78]: plt.plot(Salary[1], c='Green', ls = '--', marker = 's', ms = 7, label = Players[1])
plt.plot(Salary[2], c='Blue', ls = '--', marker = 'o', ms = 5, label = Players[2])
plt.plot(Salary[3], c='Green', ls = '--', marker = '^', ms = 8, label = Players[3])
plt.plot(Salary[4], c='Red', ls = '--', marker = 'd', ms = 8, label = Players[4])
plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
```

```
plt.show()
```

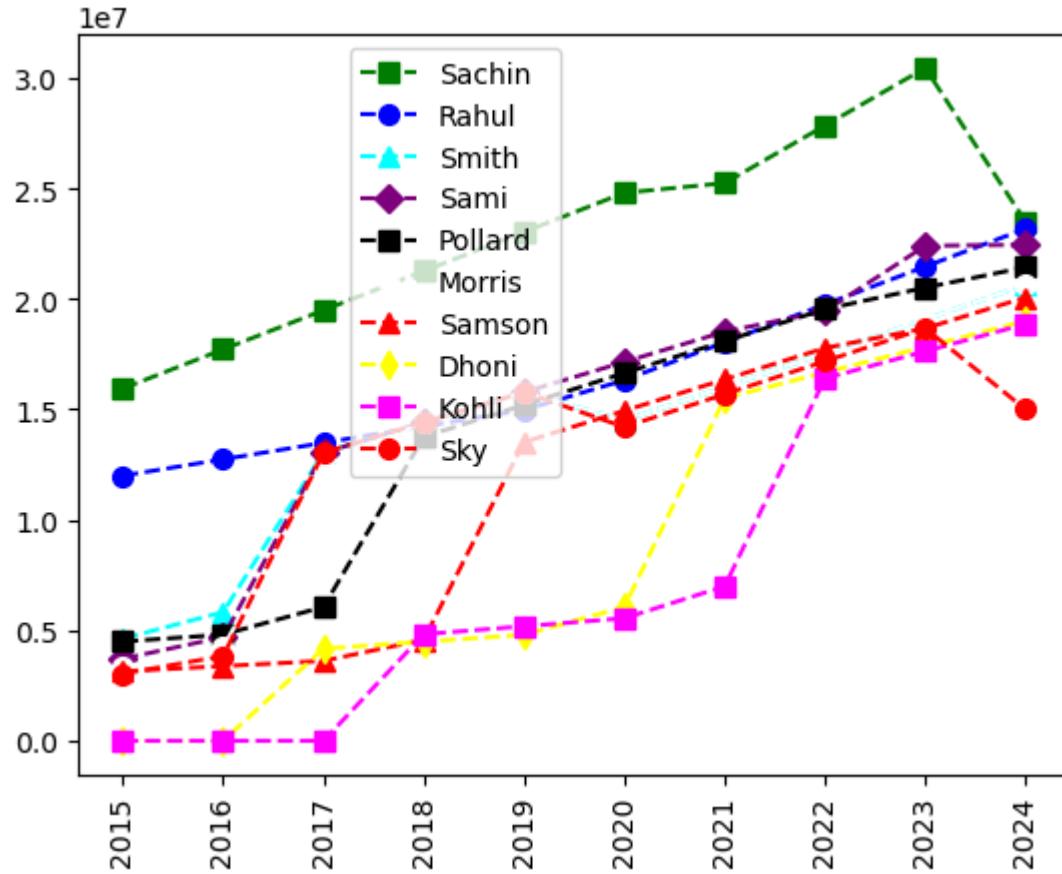


```
In [80]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Salary[2], c='cyan', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='Purple', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='white', ls = '--', marker = 'o', ms = 7, label = Players[5])
```

```
plt.plot(Salary[6], c='Red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='Yellow', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='magenta', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'upper right',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

plt.show()
```



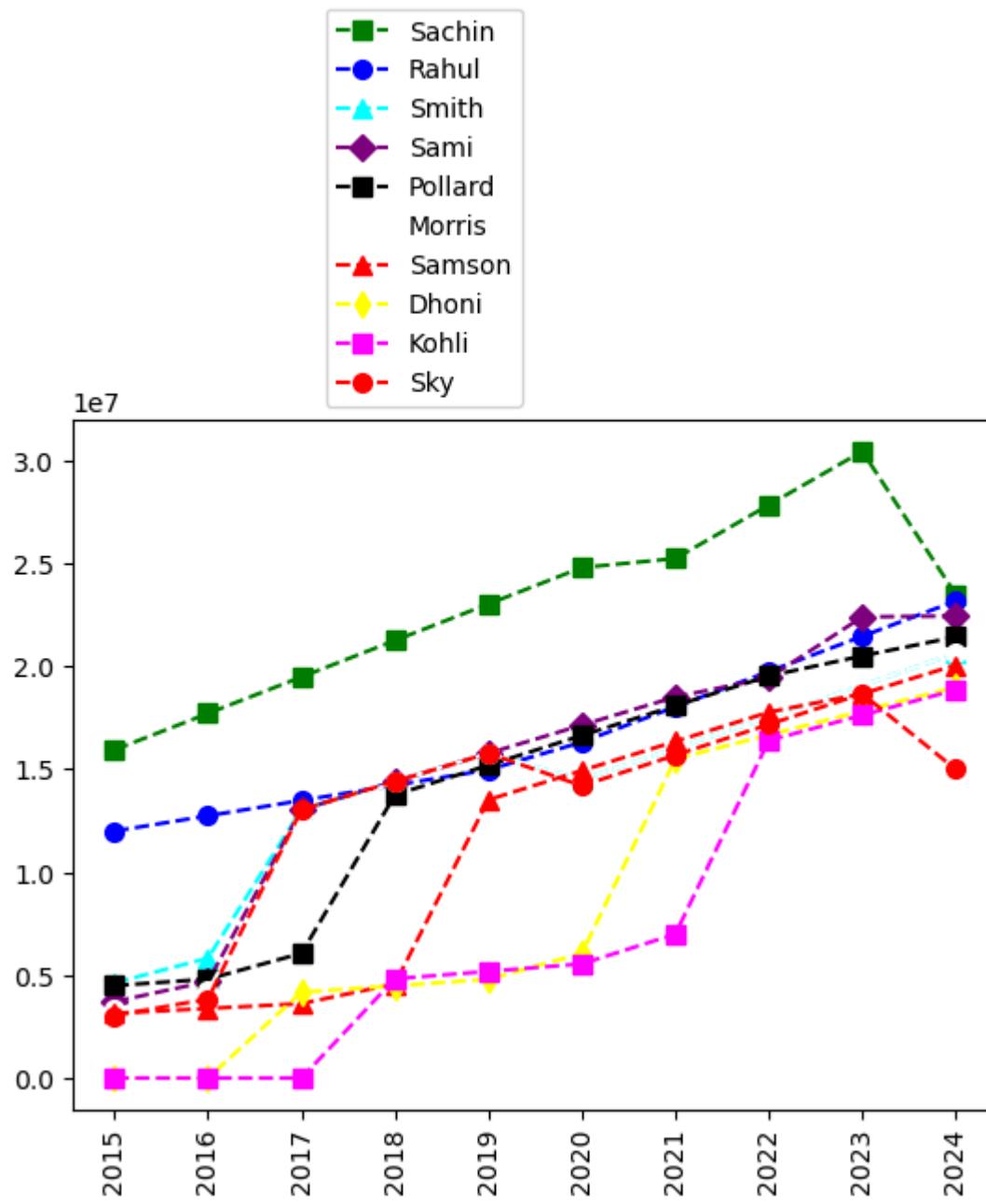
```
In [81]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Salary[2], c='cyan', ls = '--', marker = '^', ms = 7, label = Players[2])
```

```
plt.plot(Salary[3], c='Purple', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='white', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='Red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='Yellow', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='magenta', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

plt.show
```

Out[81]: <function matplotlib.pyplot.show(close=None, block=None)>

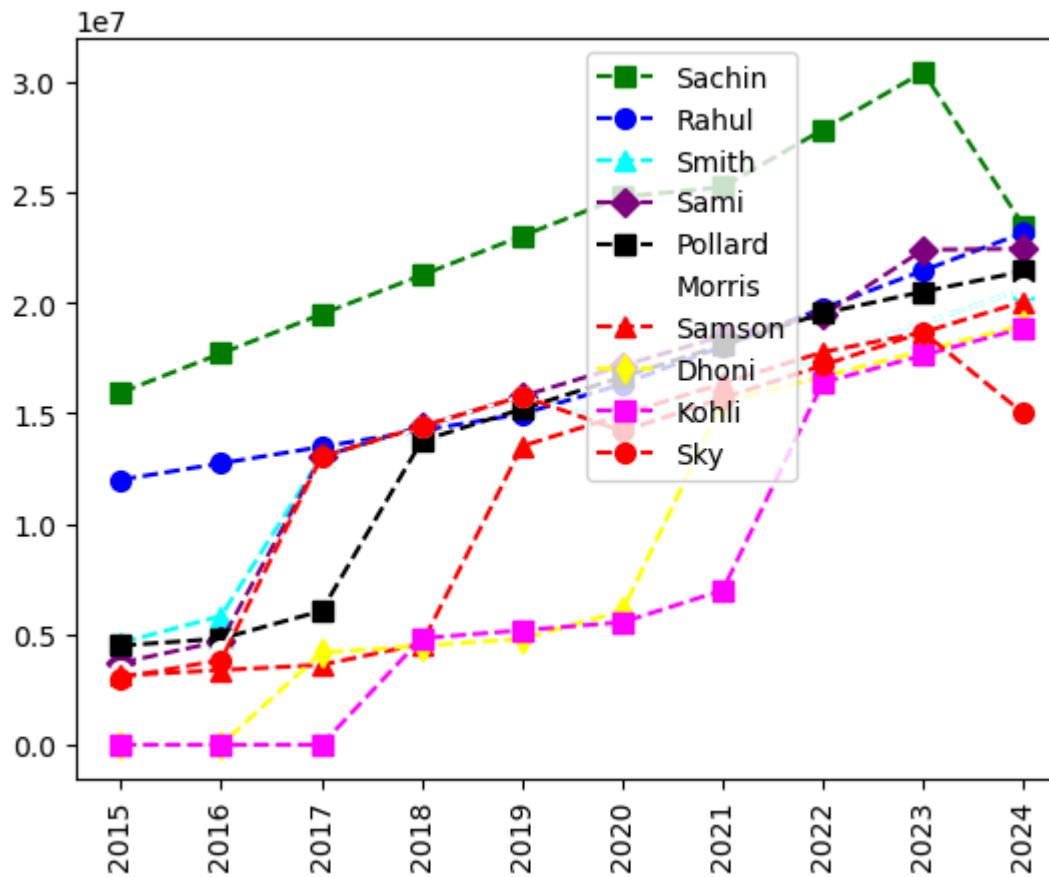


```
In [82]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Salary[2], c='cyan', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='Purple', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='white', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='Red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='Yellow', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='magenta', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'upper left',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

plt.show
```

```
Out[82]: <function matplotlib.pyplot.show(close=None, block=None)>
```

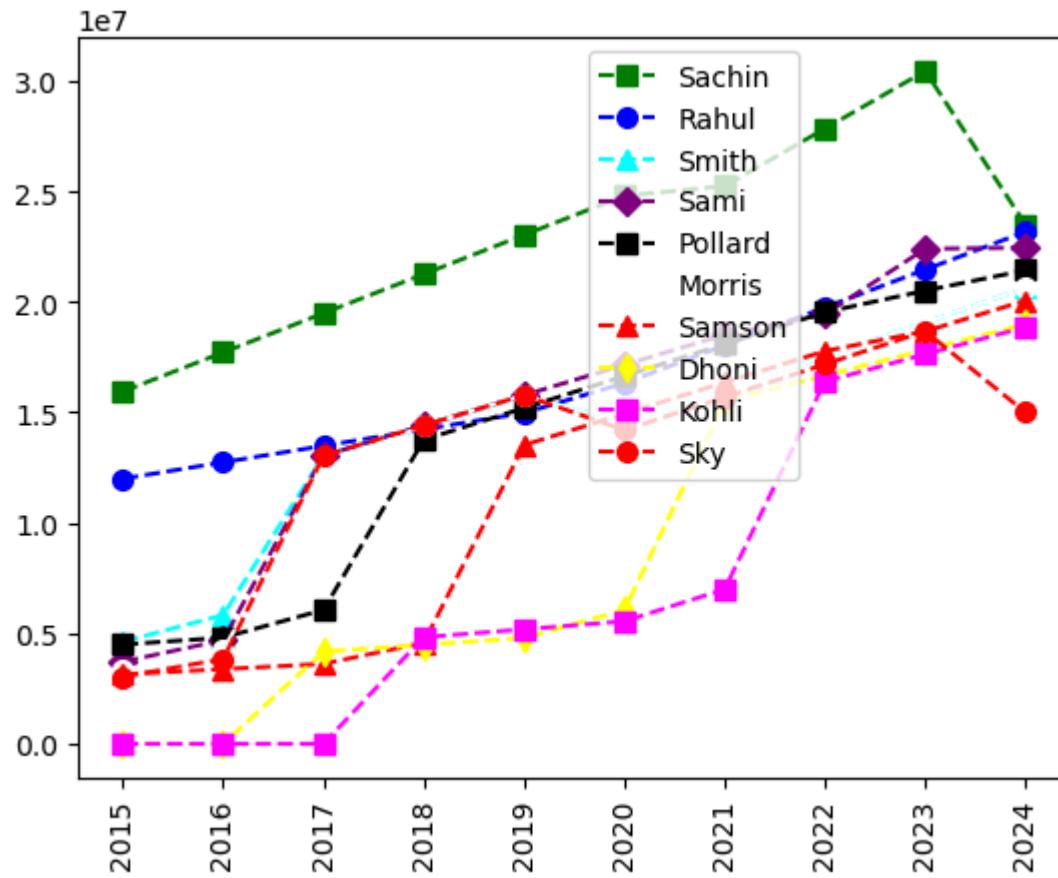


```
In [83]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Salary[2], c='cyan', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='Purple', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='white', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='Red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='Yellow', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='magenta', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'upper left',bbox_to_anchor=(0.5,1))
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')
```

```
plt.show
```

```
Out[83]: <function matplotlib.pyplot.show(close=None, block=None)>
```



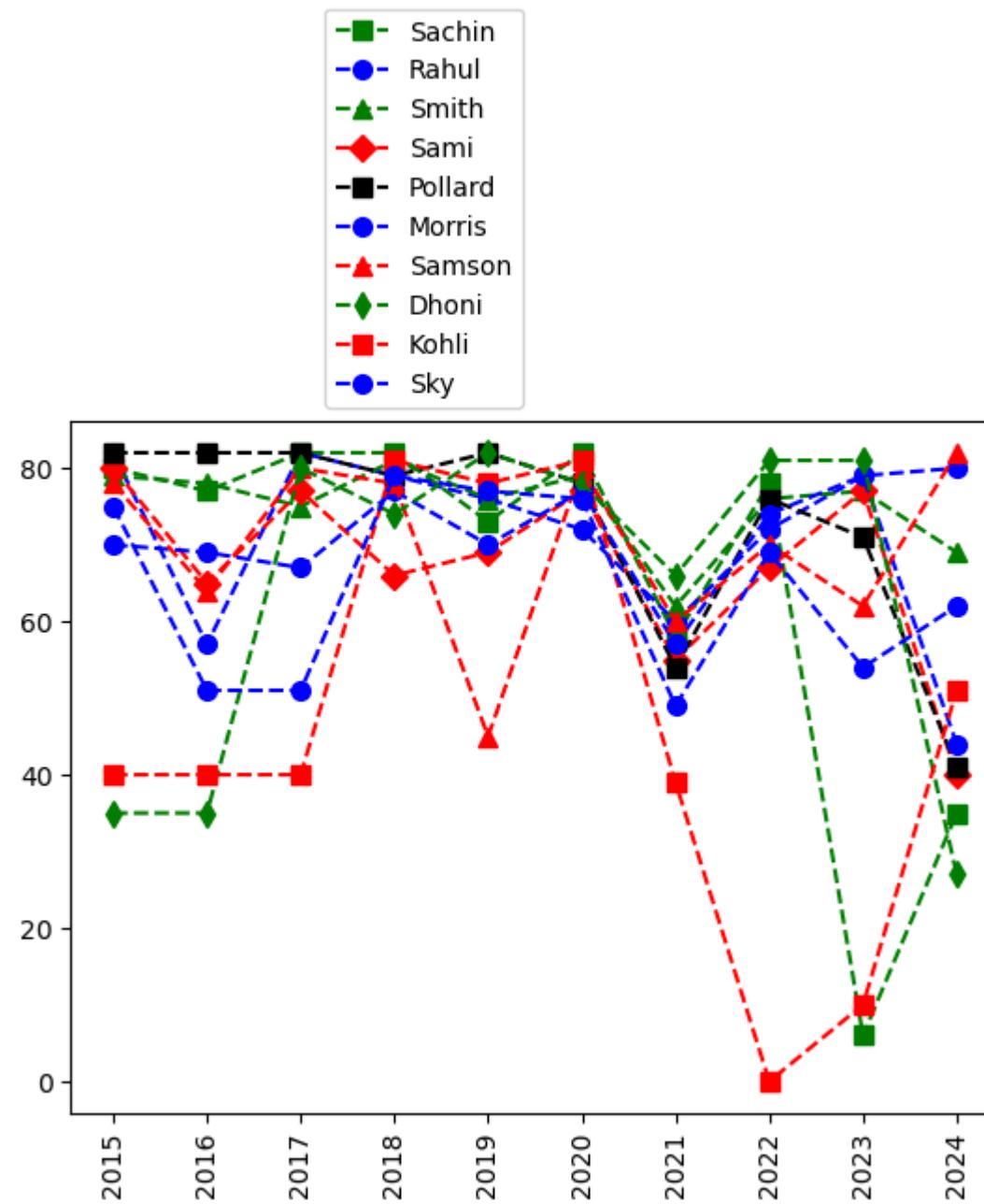
```
In [84]: # we can visualize the how many games played by a player
```

```
plt.plot(Games[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Games[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Games[2], c='Green', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Games[3], c='Red', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Games[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Games[5], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Games[6], c='red', ls = '--', marker = '^', ms = 7, label = Players[6])
```

```
plt.plot(Games[7], c='Green', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Games[8], c='Red', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Games[9], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons, rotation='vertical')

plt.show()
```



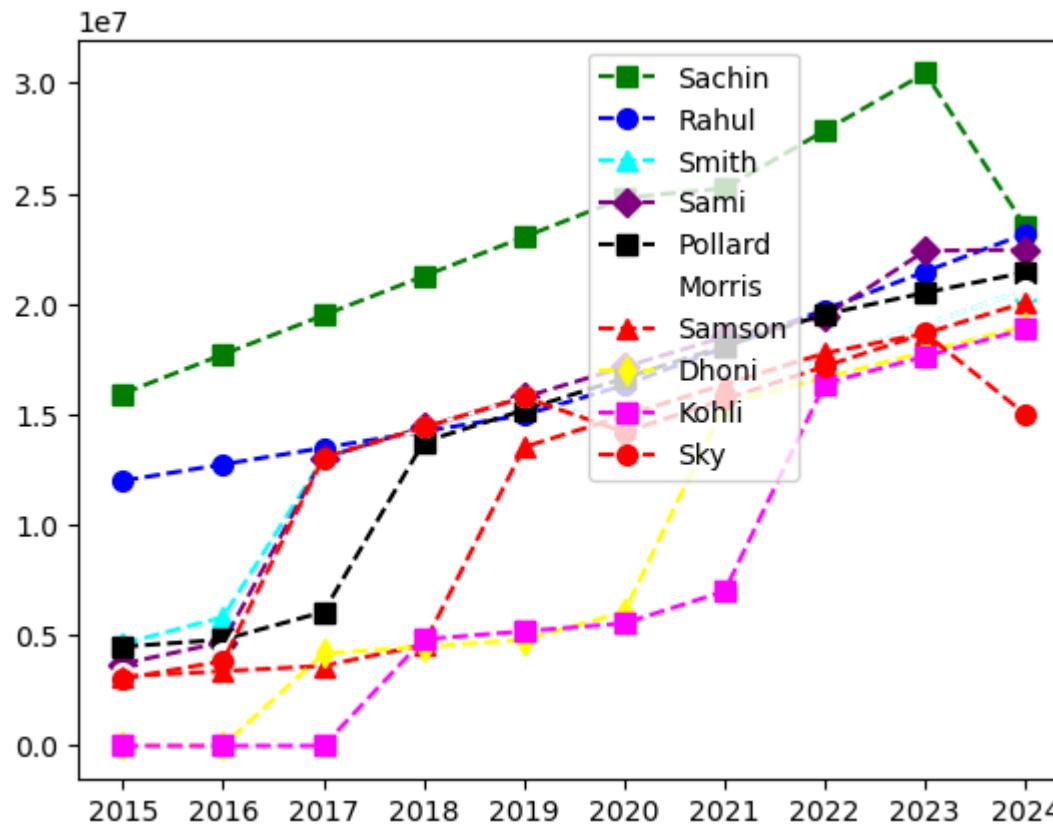
In [86]: #Number of Games Played per Season by Each Player

```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Salary[2], c='cyan', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='Purple', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='white', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='Red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='Yellow', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='magenta', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'upper left',bbox_to_anchor=(0.5,1) )
plt.xticks(list(range(0,10)), Seasons, rotation='horizontal')

plt.show
```

Out[86]: <function matplotlib.pyplot.show(close=None, block=None)>



In [91]: #Number of Games Played per Season by Each Player

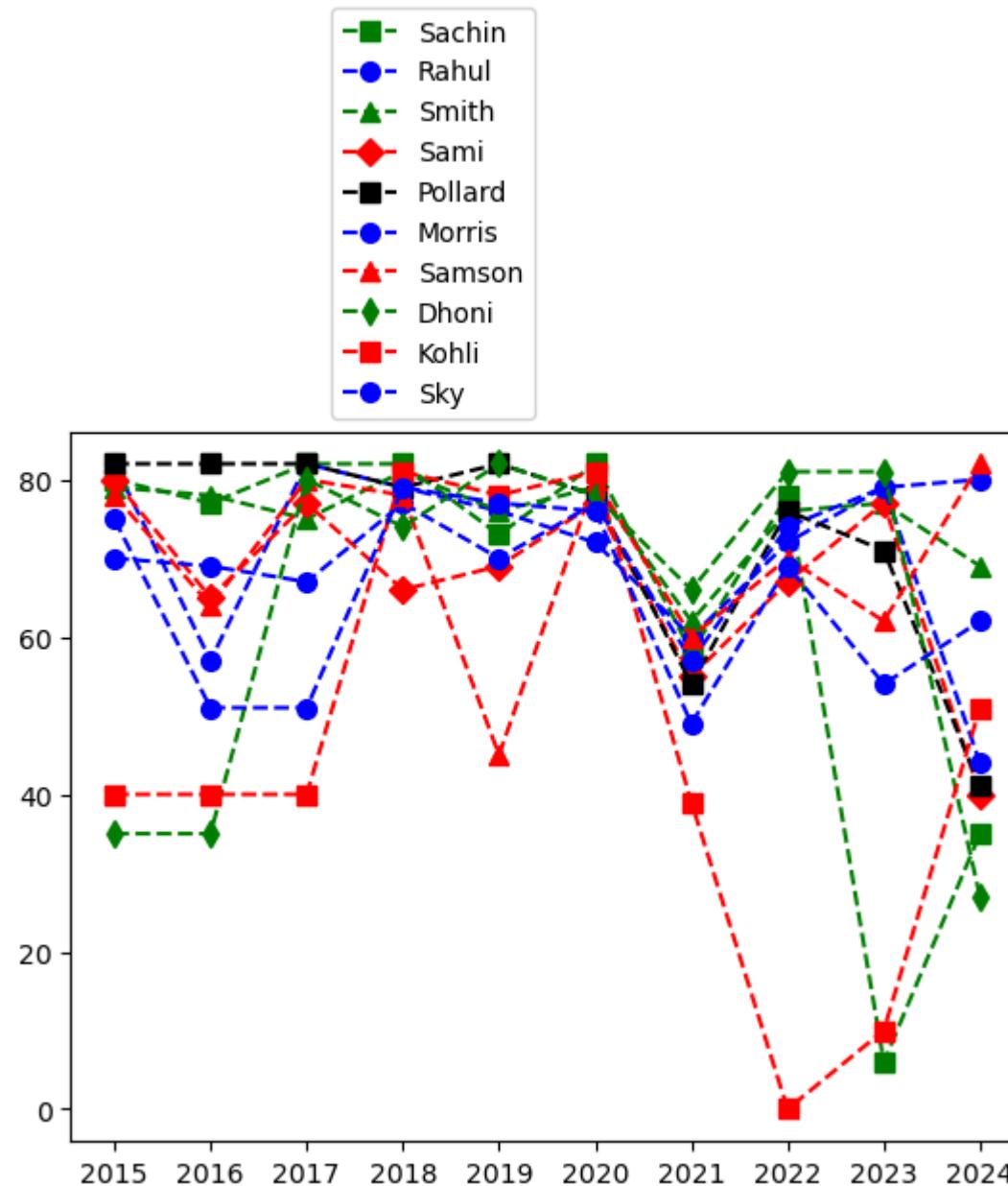
```

plt.plot(Games[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.plot(Games[1], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[1])
plt.plot(Games[2], c='Green', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Games[3], c='Red', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Games[4], c='Black', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Games[5], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Games[6], c='red', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Games[7], c='Green', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Games[8], c='Red', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Games[9], c='Blue', ls = '--', marker = 'o', ms = 7, label = Players[9])

plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1) )

```

```
plt.xticks(list(range(0,10)), Seasons, rotation='horizontal')
plt.show()
```



In [ ]: