

```
In [5]: import numpy as np
#Seasons
Seasons = ["2015", "2016", "2017", "2018", "2019", "2020", "2021", "2022", "2023",
Sdict = {"2015":0,"2016":1,"2017":2,"2018":3,"2019":4,"2020":5,"2021":6,"2022":7

#Players
Players = ["Sachin", "Rahul", "Smith", "Sami", "Pollard", "Morris", "Samson", "D
Pdict = {"Sachin":0,"Rahul": 1, "Smith": 2, "Sami": 3, "Pollard": 4, "Morris": 5

#Salaries
Sachin_Salary = [15946875, 17718750, 19490625, 21262500, 23034375, 24806250, 25244
Rahul_Salary = [12000000, 12744189, 13488377, 14232567, 14976754, 16324500, 18038573
Smith_Salary = [4621800, 5828090, 13041250, 14410581, 15779912, 14500000, 1602250
Sami_Salary = [3713640, 4694041, 13041250, 14410581, 15779912, 17149243, 18518574, 1
Pollard_Salary = [4493160, 4806720, 6061274, 13758000, 15202590, 16647180, 18091770
Morris_Salary = [3348000, 4235220, 12455000, 14410581, 15779912, 14500000, 1602250
Samson_Salary = [3144240, 3380160, 3615960, 4574189, 13520500, 14940153, 16359805, 1
Dhoni_Salary = [0, 0, 4171200, 4484040, 4796880, 6053663, 15506632, 16669630, 178326
Kohli_Salary = [0, 0, 0, 4822800, 5184480, 5546160, 6993708, 16402500, 17632688, 188
Sky_Salary = [3031920, 3841443, 13041250, 14410581, 15779912, 14200000, 15691000, 1

#Matrix
Salary= np.array([Sachin_Salary, Rahul_Salary, Smith_Salary, Sami_Salary, Pollar

#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, Samso

#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, Morr
```

In [7]: Salary

```
Out[7]: 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 [8]: Games

```
Out[8]: 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 [9]: np.round(Salary/Games)

```
C:\Users\Acer\AppData\Local\Temp\ipykernel_5460\3232172828.py:1: RuntimeWarning:
divide by zero encountered in divide
np.round(Salary/Games)
```

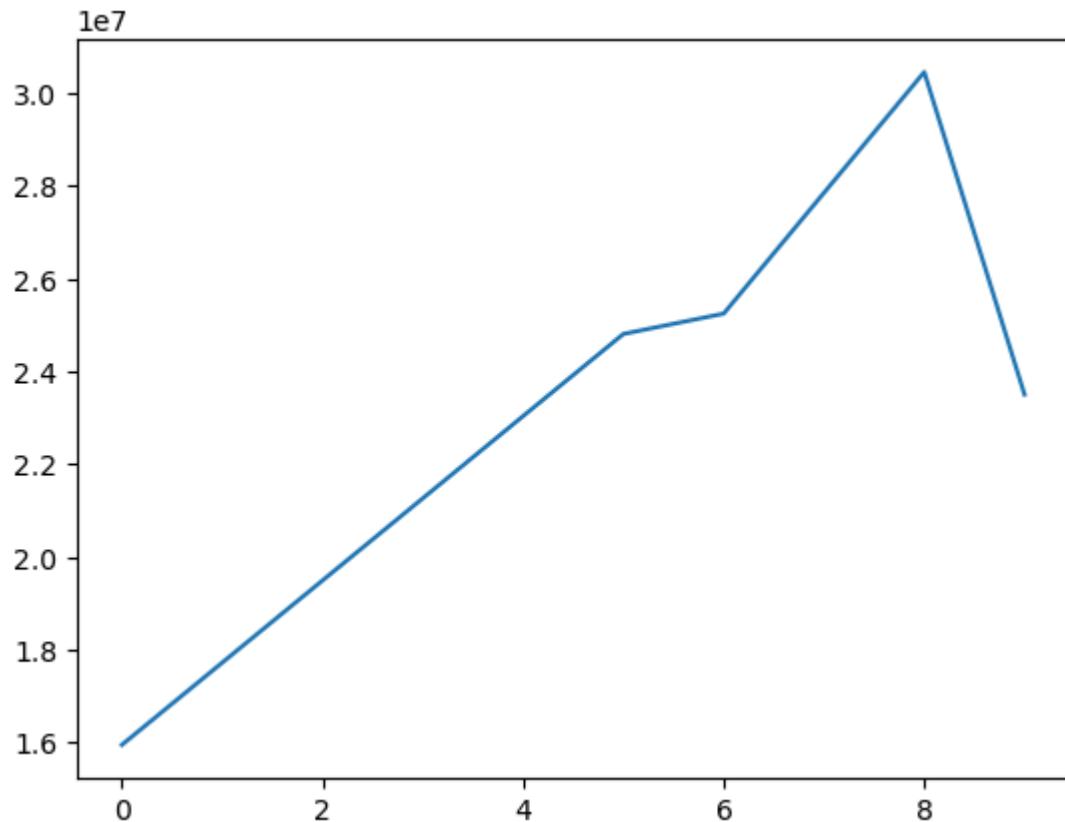
```
Out[9]: array([[ 199336.,  230114.,  237691.,  259299.,  315539.,  302515.,
   435250.,  357040.,  5075634.,  671429.],
   [ 146341.,  223582.,  164492.,  180159.,  197063.,  226729.,
   300643.,  274342.,  271731.,  289760.],
   [ 58504.,  74719.,  173883.,  177908.,  207630.,  183544.,
   258427.,  230855.,  247630.,  299194.],
   [ 46420.,  72216.,  169367.,  218342.,  228694.,  222717.,
   336701.,  290299.,  291006.,  561450.],
   [ 54795.,  58619.,  73918.,  174152.,  185397.,  213425.,
   335033.,  257057.,  288918.,  522836.],
   [ 47829.,  61380.,  185896.,  187150.,  225427.,  188312.,
   281096.,  237095.,  241361.,  469191.],
   [ 40311.,  52815.,  45200.,  58643.,  300456.,  186752.,
   272663.,  253992.,  301104.,  244739.],
   [     0.,         0., 52140., 60595., 58499., 77611.,
  234949., 205798., 220156., 703542.],
   [     0.,         0.,         0., 59541., 66468., 68471.,
  179326.,      inf, 1763269., 369860.],
   [ 40426.,  75322., 255711., 182412., 204934., 186842.,
  320224., 249014., 345796., 241935.]])
```

```
In [10]: import warnings  
warnings.filterwarnings('ignore')
```

```
In [11]: import matplotlib.pyplot as PLT
```

```
In [12]: PLT.plot(Salary[0])
```

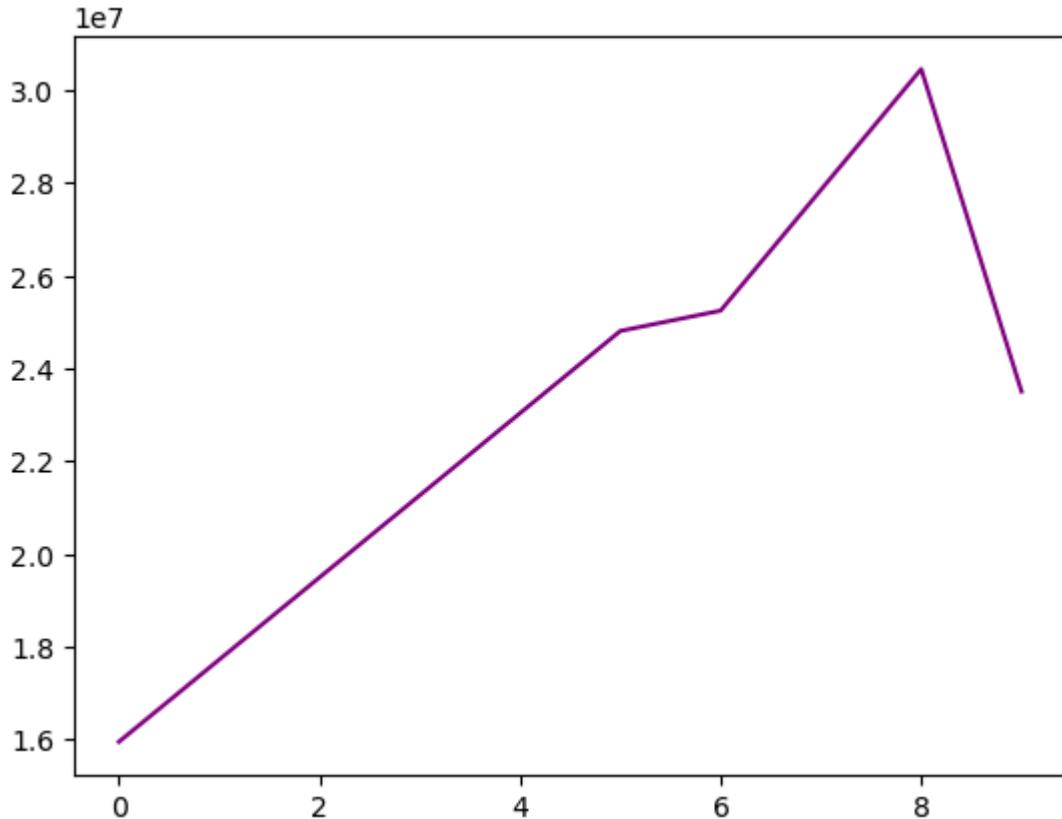
```
Out[12]: [<matplotlib.lines.Line2D at 0x18756e07750>]
```



```
In [13]: # In the above graph x axis data is displayed automatically by matplotlib, this
```

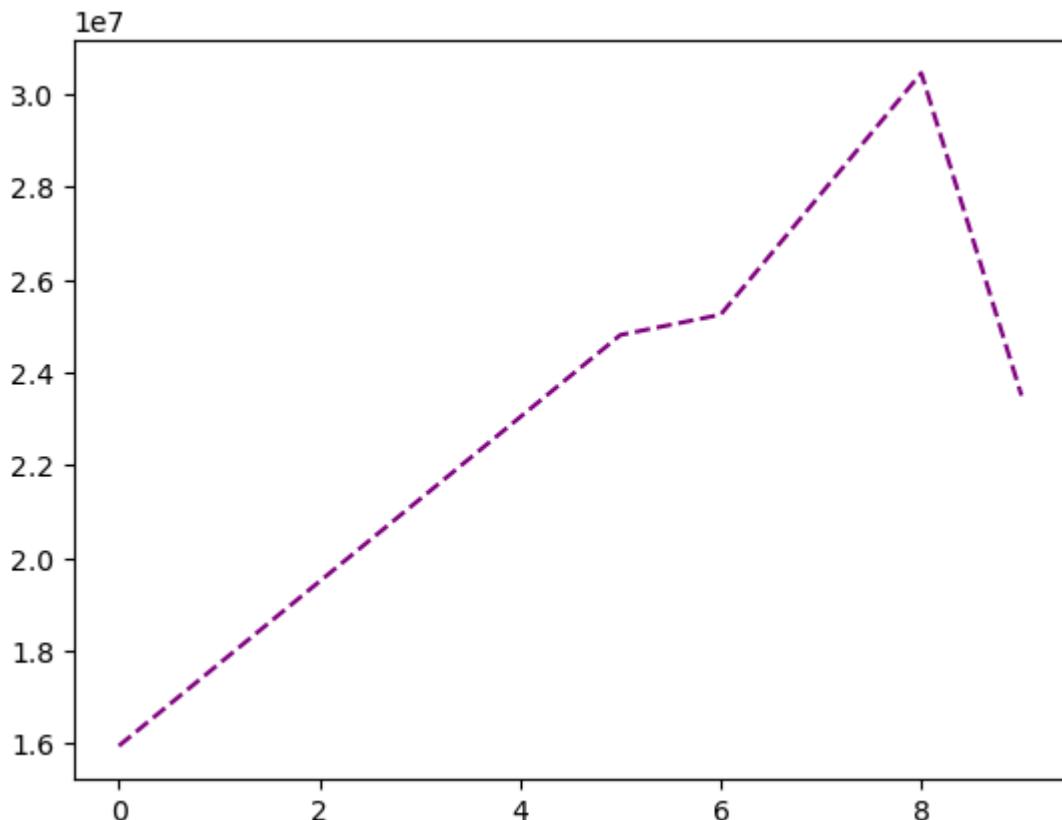
```
In [14]: PLT.plot(Salary[0], color = 'purple')
```

```
Out[14]: [<matplotlib.lines.Line2D at 0x18756ebf9d0>]
```



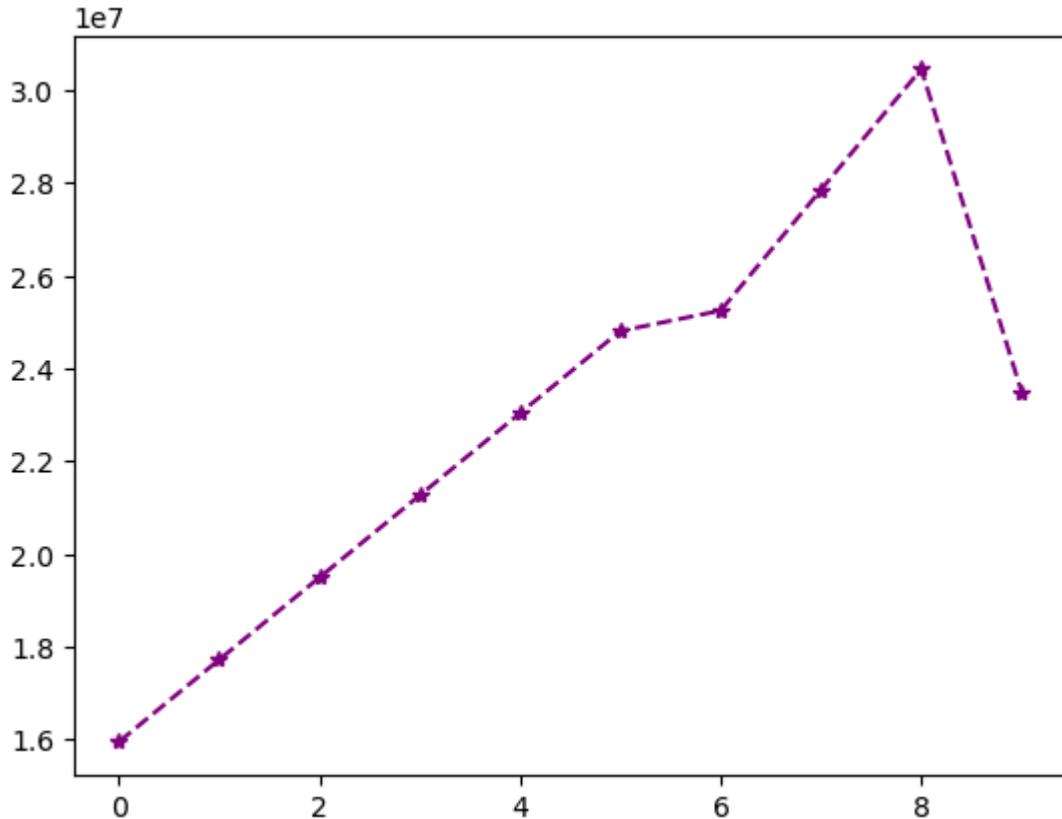
```
In [15]: PLT.plot(Salary[0], c = 'purple', ls = '--') #we can use c as shortform for color
```

```
Out[15]: []
```



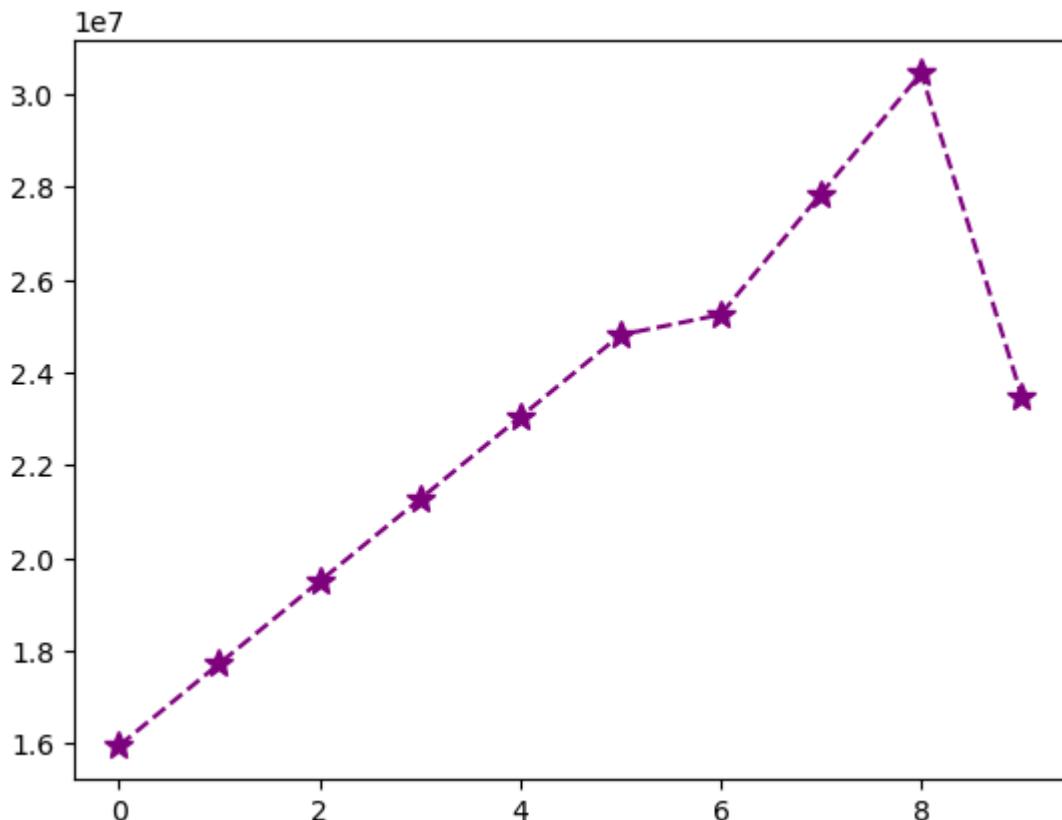
```
In [16]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = '*')
```

```
Out[16]: []
```



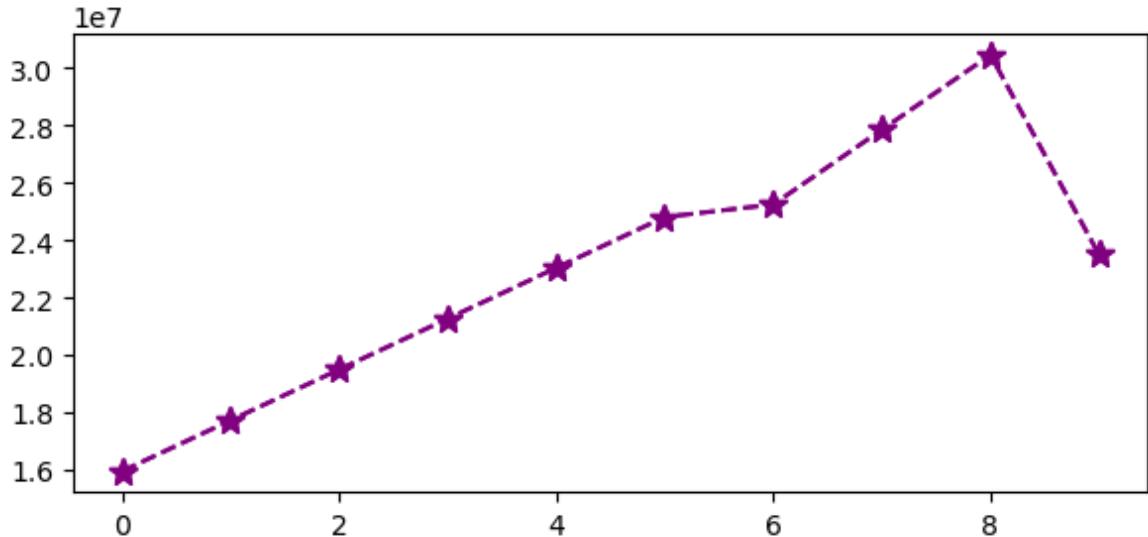
```
In [18]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = '*', ms = 10) #ms means ma
```

```
Out[18]: [<matplotlib.lines.Line2D at 0x18757ac9f90>]
```



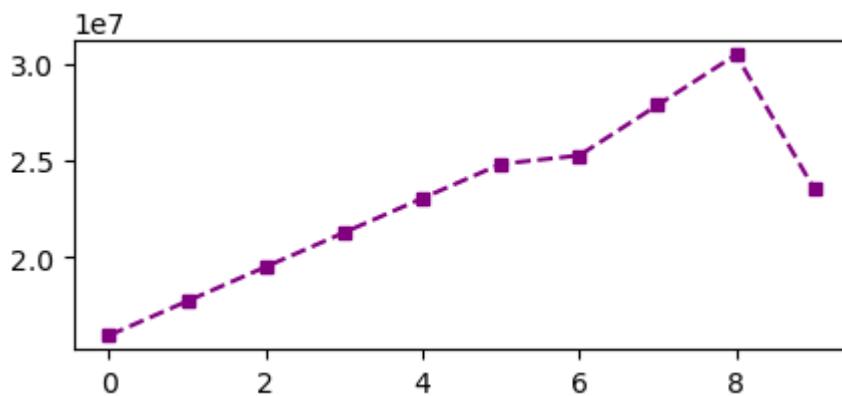
```
In [19]: %matplotlib inline  
PLT.rcParams['figure.figsize'] = 7,3 #7 = Height, 3 = Width
```

```
In [21]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = '*', ms = 10)
PLT.show()
```



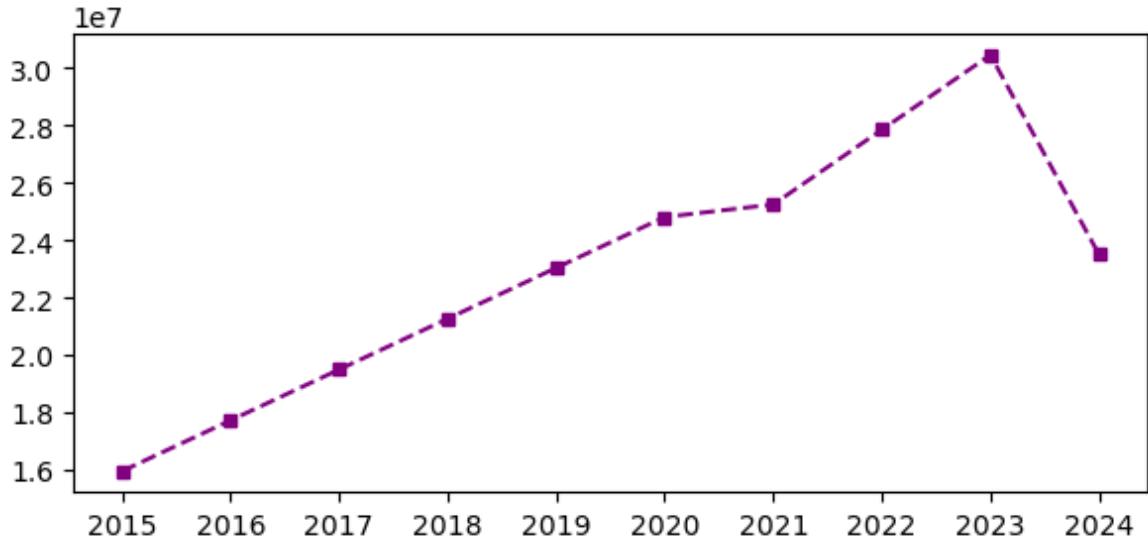
```
In [22]: %matplotlib inline
PLT.rcParams['figure.figsize'] = 5,2 #5 = Height, 2 = Width
```

```
In [25]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = 's', ms = 5)
PLT.show()
```

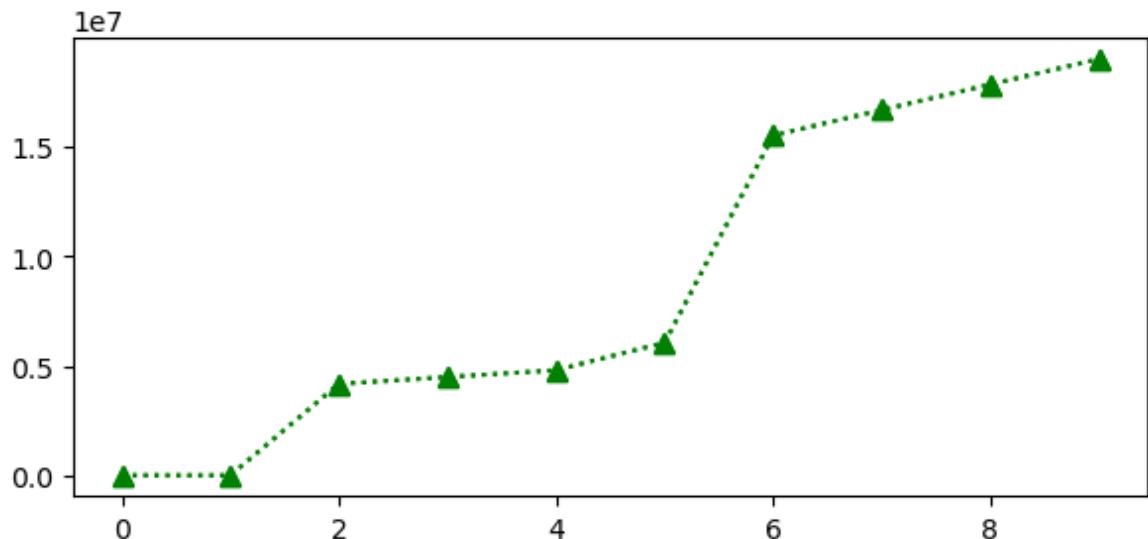


```
In [26]: %matplotlib inline
PLT.rcParams['figure.figsize'] = 7,3
```

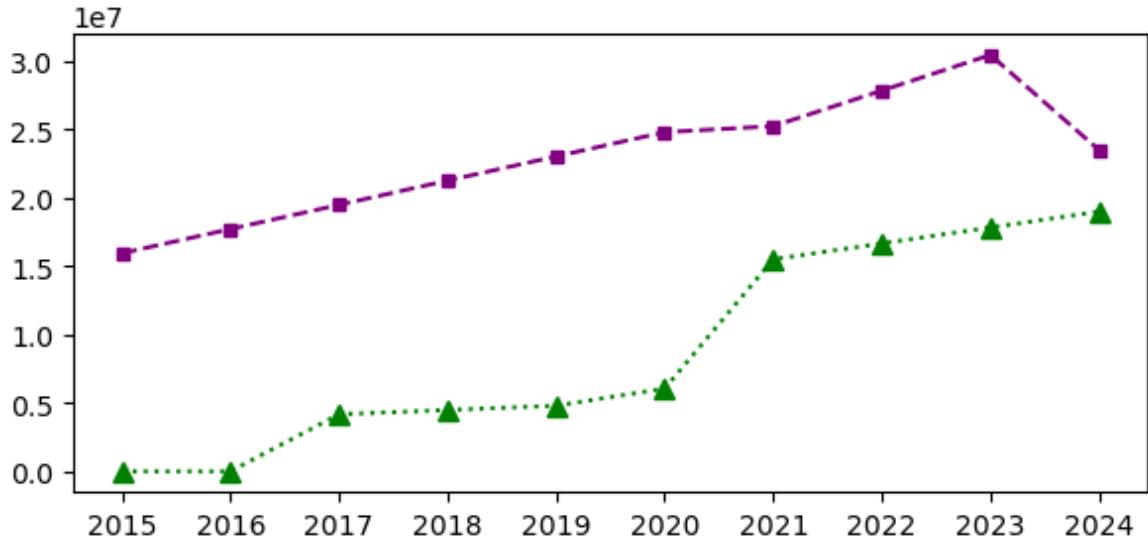
```
In [27]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = 's', ms = 5)
PLT.xticks(list(range(0,10)),Seasons)
PLT.show()
```



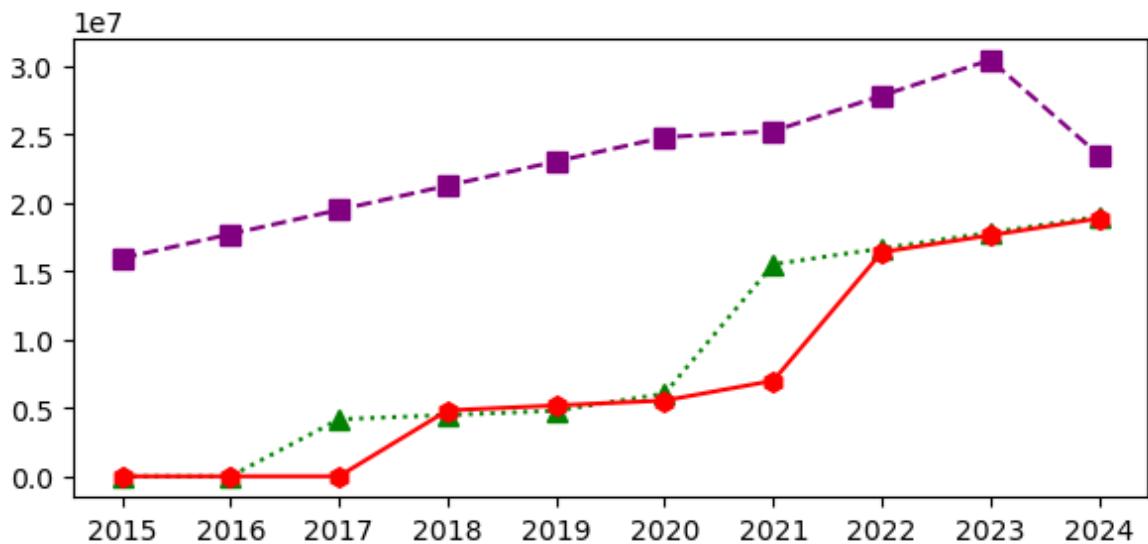
```
In [29]: PLT.plot(Salary[7], c = 'green', ls = ':', marker = '^', ms = 7)  
PLT.show()
```



```
In [30]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = 's', ms = 5)  
PLT.plot(Salary[7], c = 'green', ls = ':', marker = '^', ms = 7)  
PLT.xticks(list(range(0,10)),Seasons)  
PLT.show()
```



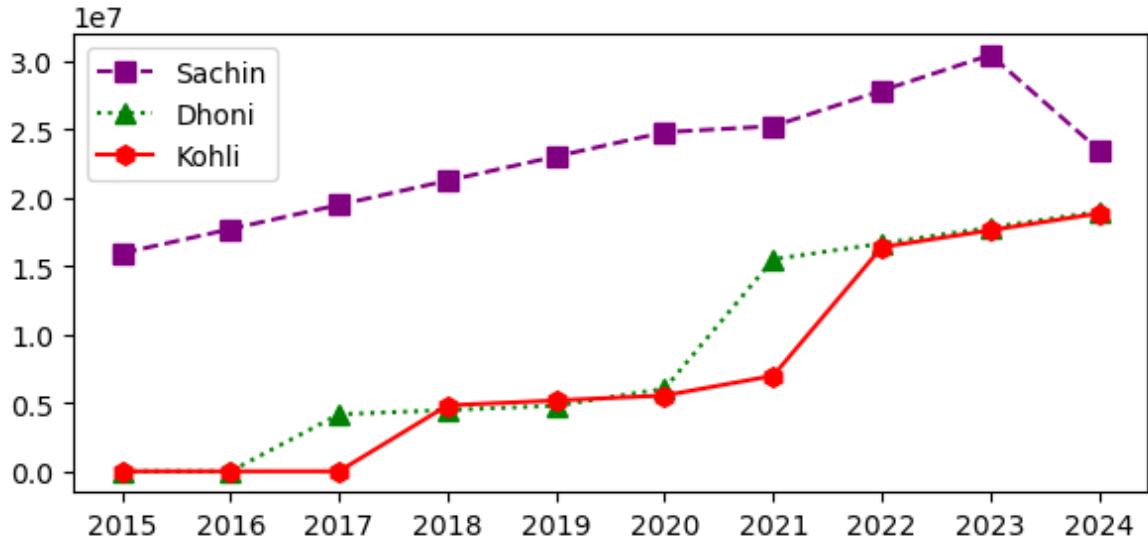
```
In [31]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = 's', ms = 7)
PLT.plot(Salary[7], c = 'green', ls = ':', marker = '^', ms = 7)
PLT.plot(Salary[8], c = 'red', ls = '-.', marker = 'h', ms = 7)
PLT.xticks(list(range(0,10)),Seasons)
PLT.show()
```



```
In [33]: PLT.plot(Salary[0], c = 'purple', ls = '--', marker = 's', ms = 7, label = Player[0])
PLT.plot(Salary[7], c = 'green', ls = ':', marker = '^', ms = 7,label = Players[7])
PLT.plot(Salary[8], c = 'red', ls = '-.', marker = 'h', ms = 7, label = Players[8])

PLT.legend() #Is used to display the label, legend is directly proportional to label

PLT.xticks(list(range(0,10)),Seasons)
PLT.show()
```

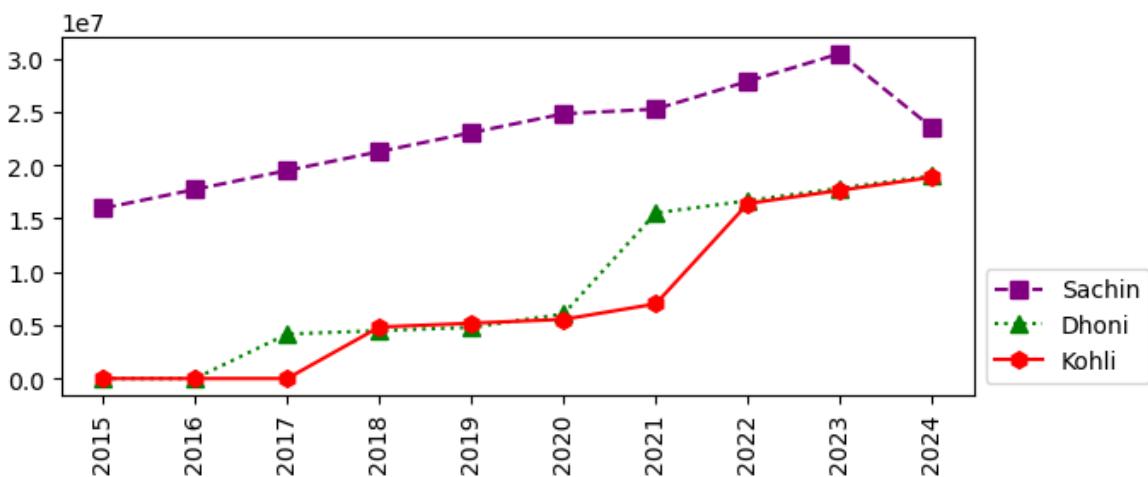


```
In [58]: PLT.plot(Salary[0], c='purple', ls='--', marker='s', ms=7, label=Players[0])
PLT.plot(Salary[7], c='green', ls=':', marker='^', ms=7, label=Players[7])
PLT.plot(Salary[8], c='red', ls='-', marker='h', ms=7, label=Players[8])

# Position the Legend outside the plot at the top left
PLT.legend(loc="lower left", bbox_to_anchor=(1, 0)) #mode="expand", borderaxespa

#anchor position 0,0 = axis intersection/bottom left, 0,1 = top left, 1,1 = top

PLT.xticks(list(range(0, 10)), Seasons, rotation = 'vertical') #rotation for lab
#PLT.tight_layout() # Adjust Layout to make room for the legend
#PLT.subplots_adjust(top=1) # Make space above the plot for the Legend
PLT.show()
```



In [ ]: