In [1]:

```
#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_PTS])
```

In [2]:
```
Salary
```

Out[2]:
```
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 [3]:
```
Games
```

```
Out[3]: 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 [4]: Points
```

```
Out[4]: 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 [5]: Games[0,5]
```

```
Out[5]: 82
```

```
In [6]: Games[-3:-1]
```

```
Out[6]: array([[35, 35, 80, 74, 82, 78, 66, 81, 81, 27],
               [40, 40, 40, 81, 78, 81, 39,  0, 10, 51]])
```

```
In [7]: Games[-3,-1]
```

```
Out[7]: 27
```

```
In [8]: Points[0]
```

```
Out[8]: array([2832, 2430, 2323, 2201, 1970, 2078, 1616, 2133,   83,  782])
```

```
In [9]: Pdict
```

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

```
In [10]: Games
```

```
Out[10]: 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 [11]: Games[Pdict['Sachin']]
```

```
Out[11]: array([80, 77, 82, 82, 73, 82, 58, 78,  6, 35])
```

```
In [12]: Points
```

```
Out[12]: 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 [13]:
```
Games
```

Out[13]:
```
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 [14]:
```
Salary
```

Out[14]:
```
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 [15]:
```
Salary/Games
```

```
C:\Users\YASH\AppData\Local\Temp\ipykernel_3848\3709746658.py:1: RuntimeWarning: divide by zero encountered in divide
  Salary/Games
```

```
Out[15]: array([[ 199335.9375    ,  230113.63636364,  237690.54878049,
                  259298.7804878 ,  315539.38356164,  302515.24390244,
                  435249.87931034,  357040.37179487, 5075634.16666667,
                  671428.57142857],
                [ 146341.46341463,  223582.26315789,  164492.40243902,
                  180159.07594937,  197062.55263158,  226729.16666667,
                  300642.88333333,  274342.29166667,  271730.60759494,
                  289759.875     ],
                [  58503.79746835,   74719.1025641 ,  173883.33333333,
                  177908.40740741,  207630.42105263,  183544.30379747,
                  258427.41935484,  230855.26315789,  247629.87012987,
                  299194.20289855],
                [  46420.5       ,   72216.01538462,  169366.88311688,
                  218342.13636364,  228694.37681159,  222717.44155844,
                  336701.34545455,  290298.50746269,  291006.15584416,
                  561450.        ],
                [  54794.63414634,   58618.53658537,   73917.97560976,
                  174151.89873418,  185397.43902439,  213425.38461538,
                  335032.77777778,  257057.36842105,  288918.        ,
                  522835.87804878],
                [  47828.57142857,   61380.        ,  185895.52238806,
                  187150.4025974 ,  225427.31428571,  188311.68831169,
                  281096.49122807,  237094.59459459,  241360.75949367,
                  469190.90909091],
                [  40310.76923077,   52815.        ,   45199.5       ,
                   58643.44871795,  300455.55555556,  186751.9125    ,
                  272663.41666667,  253992.25714286,  301103.72580645,
                  244738.57317073],
                [      0.        ,       0.        ,   52140.        ,
                   60595.13513514,   58498.53658537,   77611.06410256,
                  234948.96969697,  205797.90123457,  220155.88888889,
                  703541.62962963],
                [      0.        ,       0.        ,       0.        ,
                   59540.74074074,   66467.69230769,   68471.11111111,
                  179325.84615385,             inf, 1763268.8       ,
                  369860.29411765],
                [  40425.6       ,   75322.41176471,  255710.78431373,
                  182412.41772152,  204933.92207792,  186842.10526316,
                  320224.48979592,  249014.49275362,  345796.2962963 ,
                  241935.48387097]])
```

```
In [16]: np.round(Salary/Games)
```

```
C:\Users\YASH\AppData\Local\Temp\ipykernel_3848\3232172828.py:1: RuntimeWarning: divide by zero encountered in divide
  np.round(Salary/Games)
```

```
Out[16]: 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 [17]: import warnings
         warnings.filterwarnings('ignore')
```

```
In [18]: import matplotlib.pyplot as plt
```

```
In [19]: %matplotlib inline
```

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

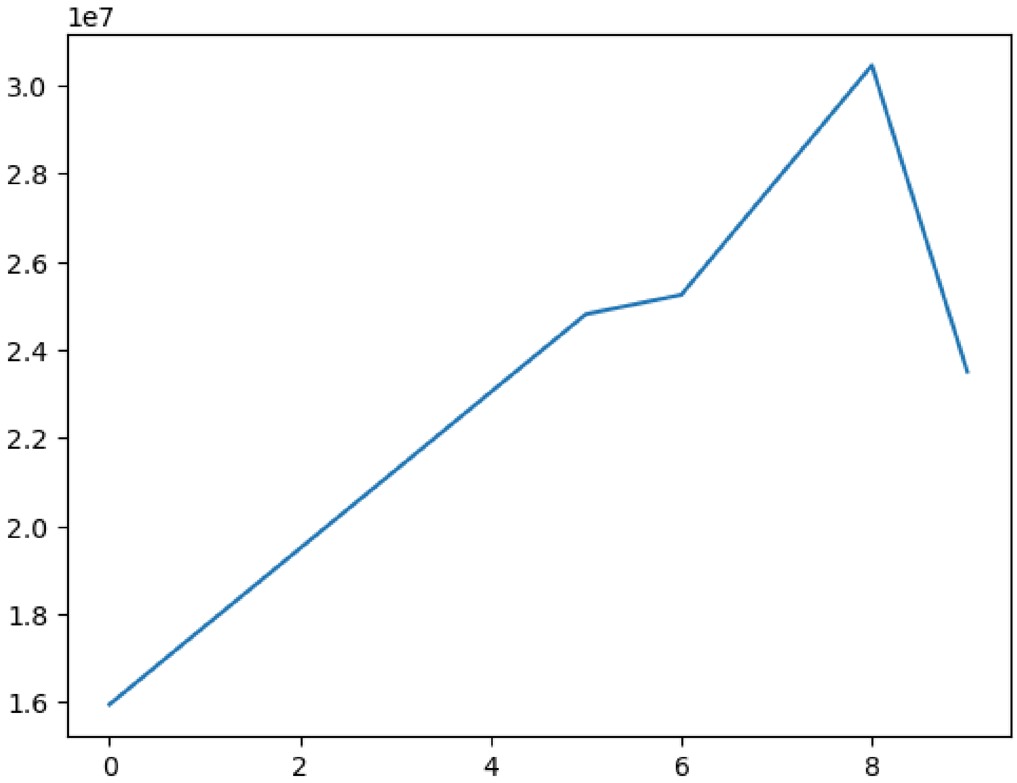
```
Out[20]:  array([[15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
                  25244493, 27849149, 30453805, 23500000],
                 [12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
                  18038573, 19752645, 21466718, 23180790],
                 [ 4621800,  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])
```

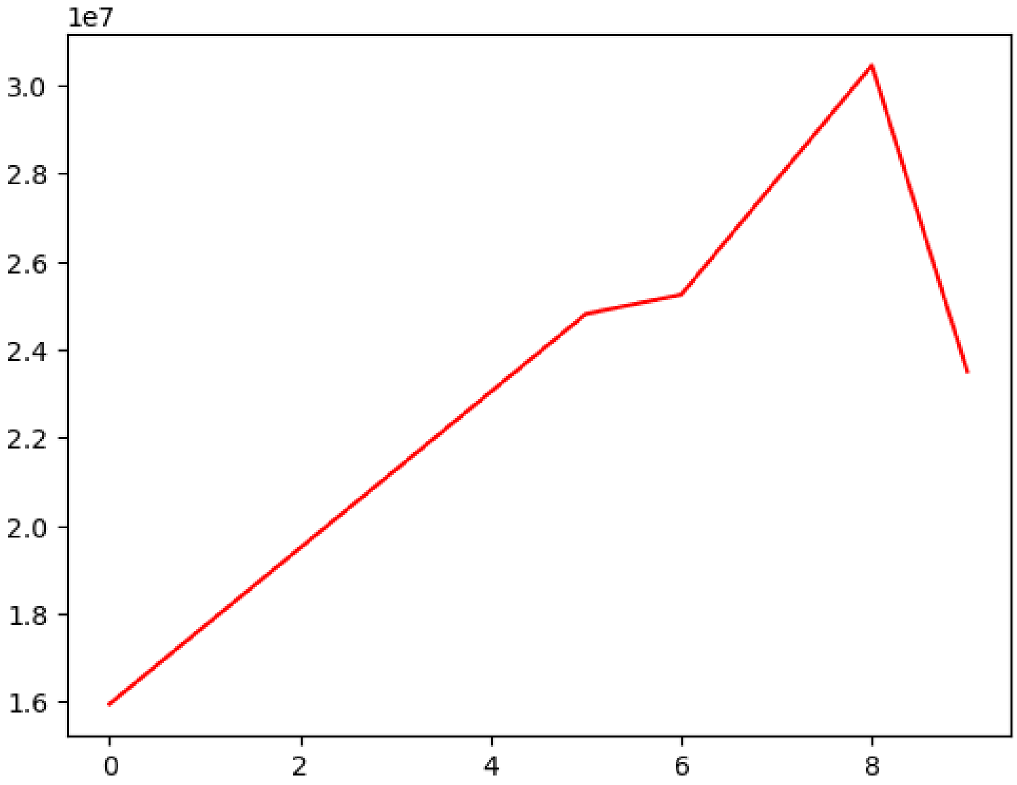
```
In [22]:  plt.plot(Salary[0])
```

```
Out[22]:  [<matplotlib.lines.Line2D at 0x14079e707a0>]
```



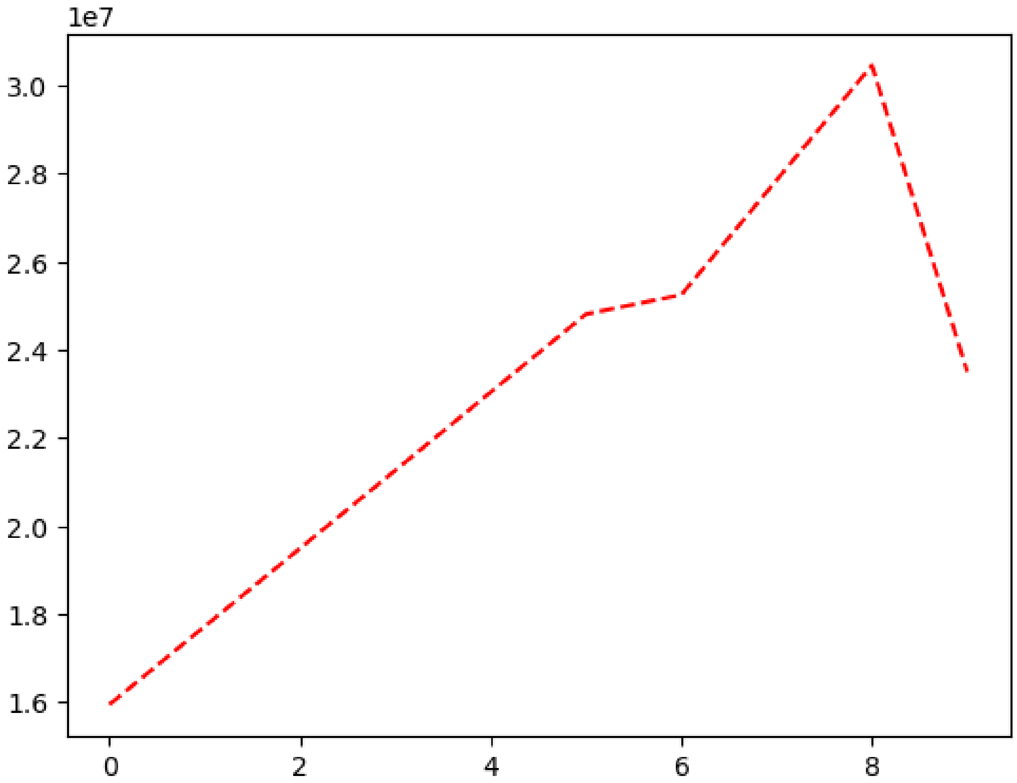
```
In [23]: plt.plot(Salary[0],color='red')
```

```
Out[23]: [<matplotlib.lines.Line2D at 0x14079eb5c10>]
```



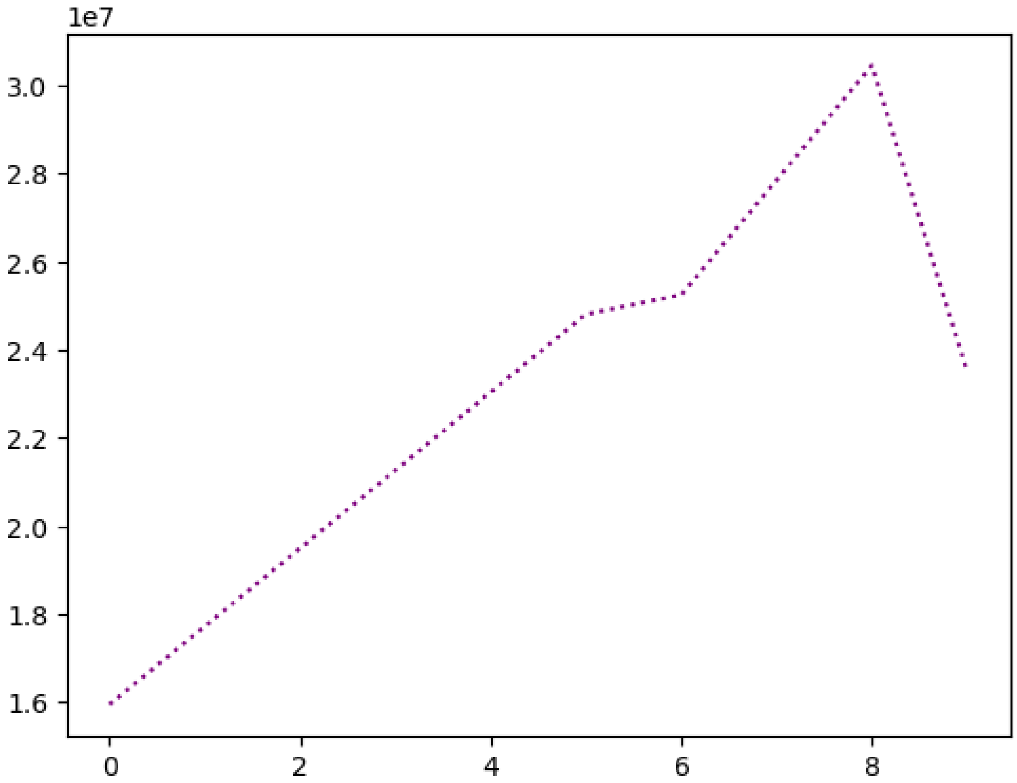
```
In [24]: plt.plot(Salary[0],color='red',ls='--')
```

```
Out[24]: [<matplotlib.lines.Line2D at 0x1407a76f650>]
```



```
In [25]: plt.plot(Salary[0],color='purple',ls='dotted')
```

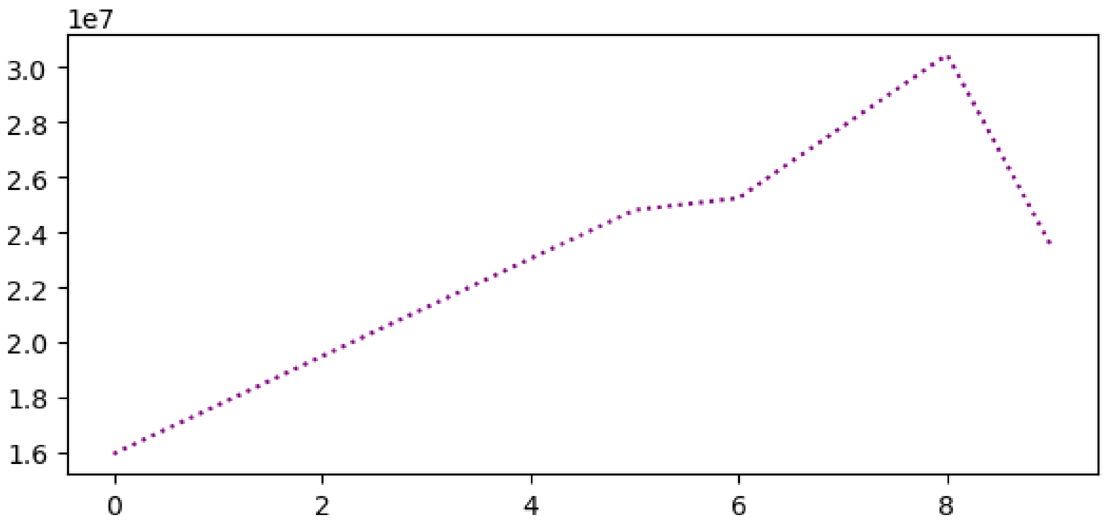
```
Out[25]: [<matplotlib.lines.Line2D at 0x1407b7a32c0>]
```



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

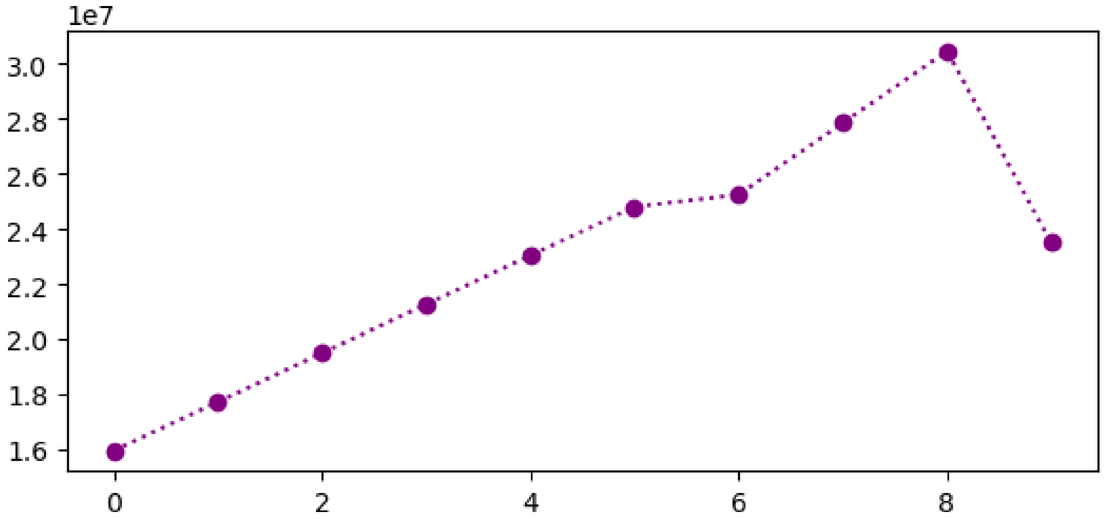
In [27]:
```
plt.plot(Salary[0],color='purple',ls='dotted')
```

Out[27]:
```
[<matplotlib.lines.Line2D at 0x1407b832870>]
```



In [28]:
```
plt.plot(Salary[0],color='purple',ls='dotted',marker='o')
```

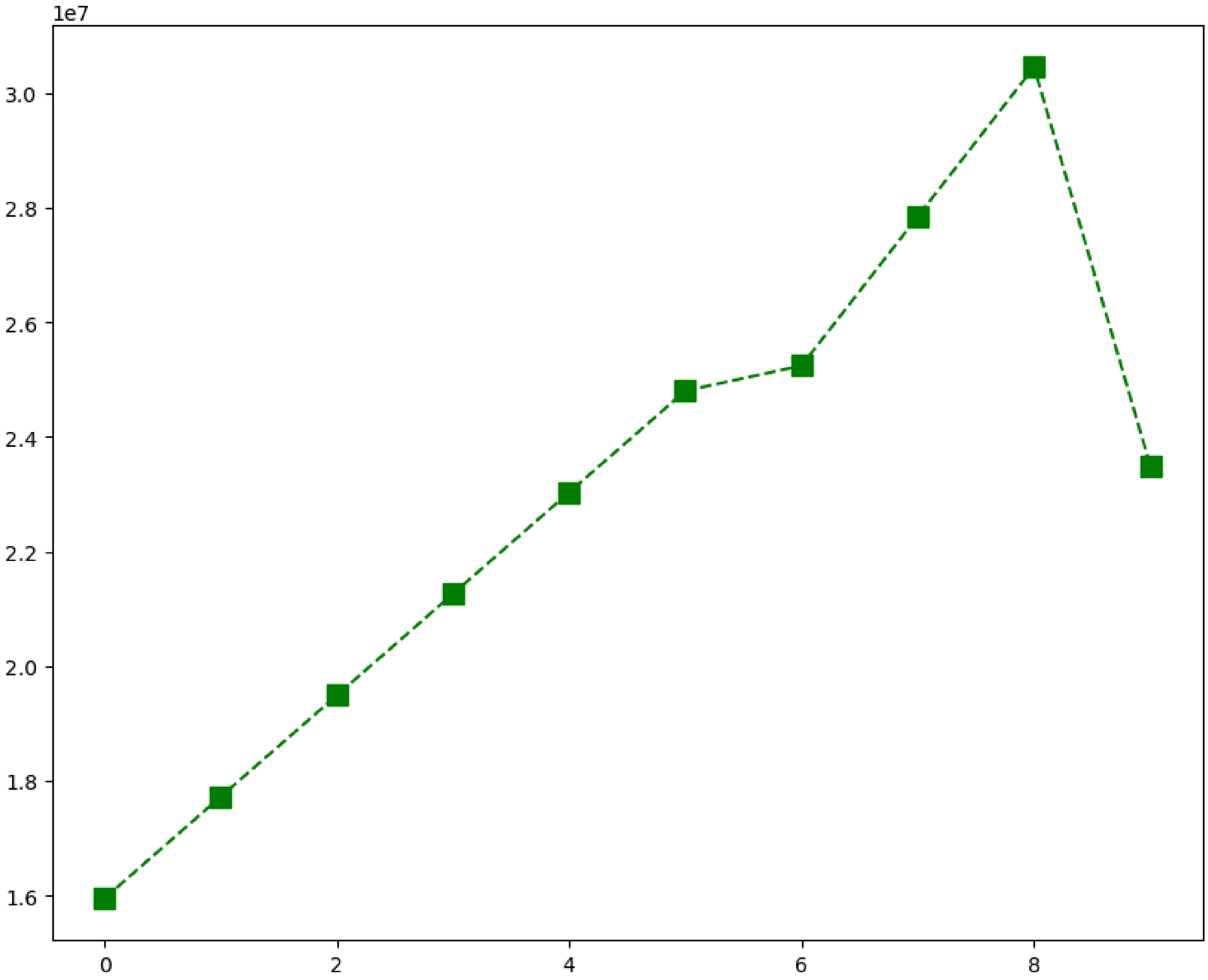
Out[28]:
```
[<matplotlib.lines.Line2D at 0x1407b7f7dd0>]
```



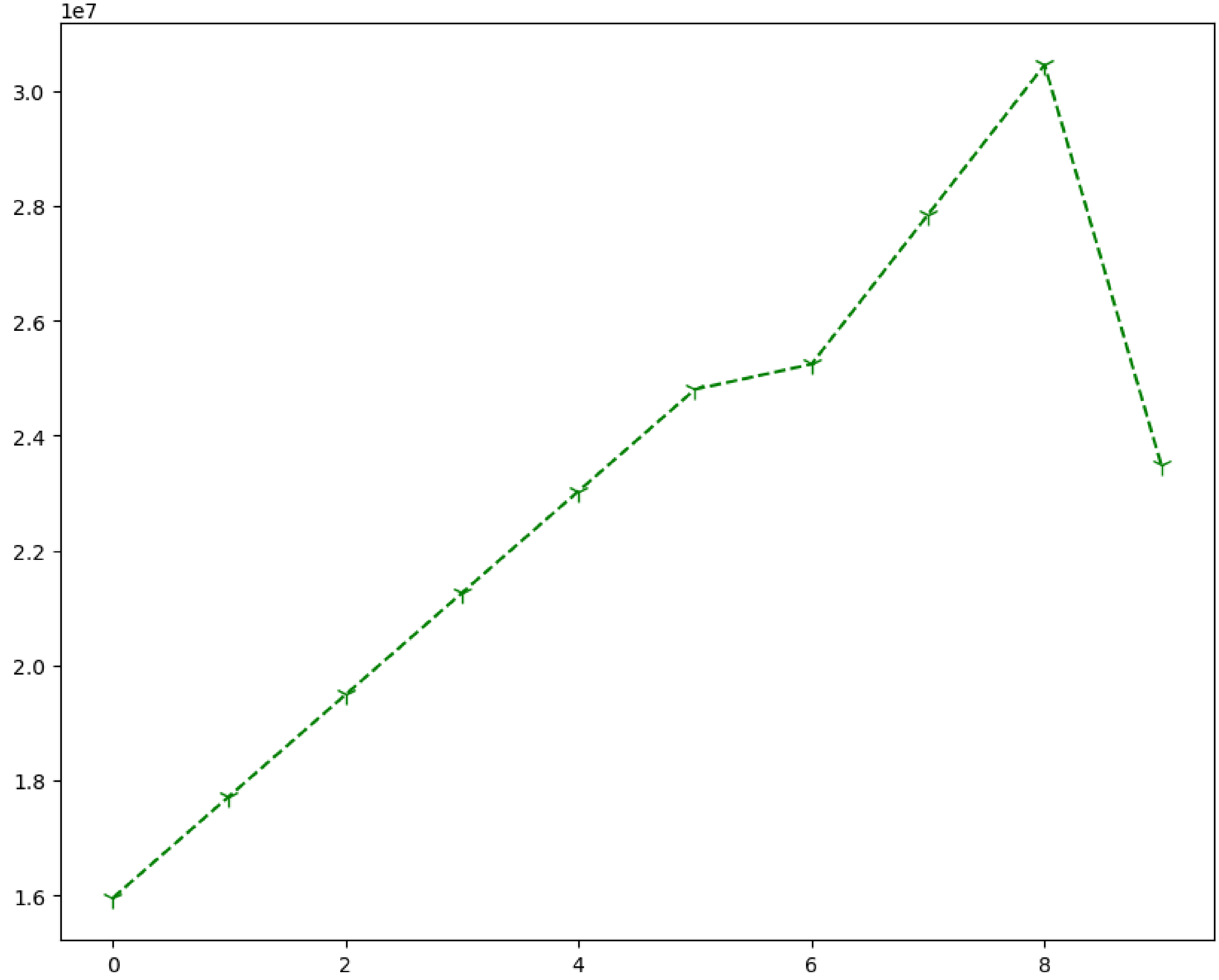
In [29]:
```
%matplotlib inline
plt.rcParams['figure.figsize'] = 10,8
```

In [30]:

```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10)
plt.show()
```



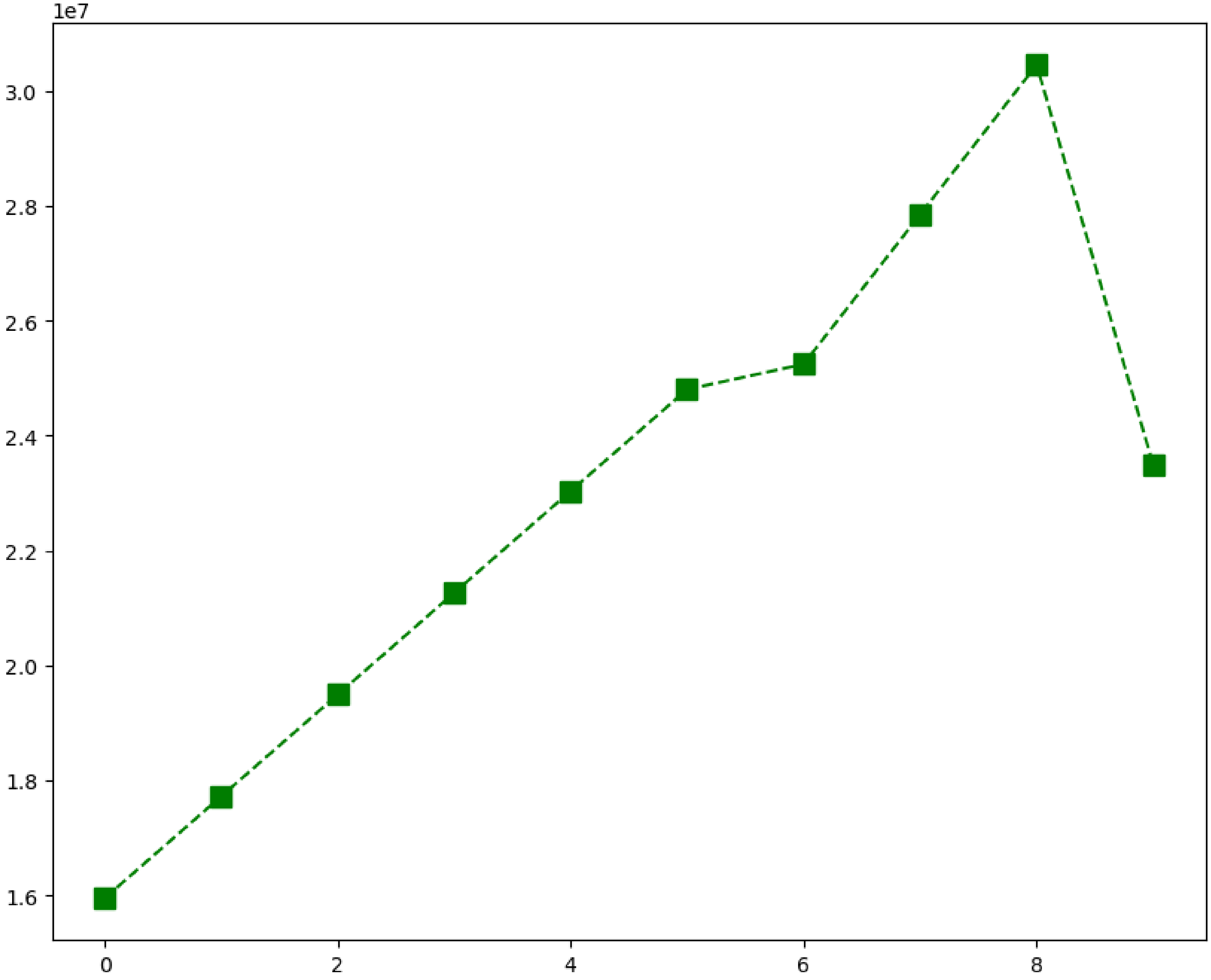
```
In [31]: plt.plot(Salary[0], c='Green', ls = '--', marker = '1', ms = 10)
         plt.show()
```



In [32]:
```
Games
```

```
Out[32]: 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 [33]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10)
         plt.show()
```



In [34]:
```
list(range(0,10))
```

```
Out[34]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

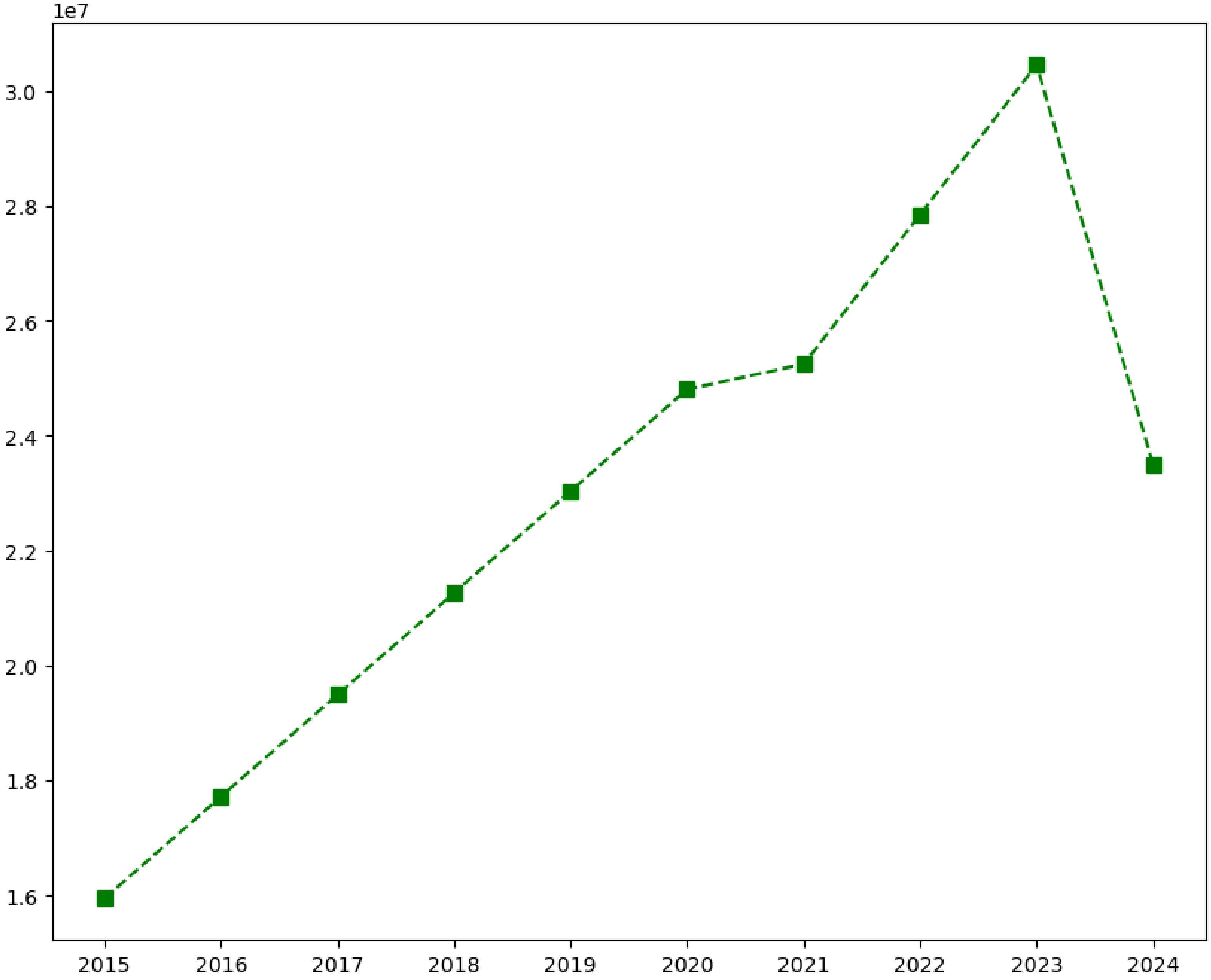
```
In [35]: Sdict
```

```
Out[35]: {'2015': 0,
          '2016': 1,
          '2017': 2,
          '2018': 3,
          '2019': 4,
          '2020': 5,
          '2021': 6,
          '2022': 7,
          '2023': 8,
          '2024': 9}
```

```
In [36]: Pdict
```

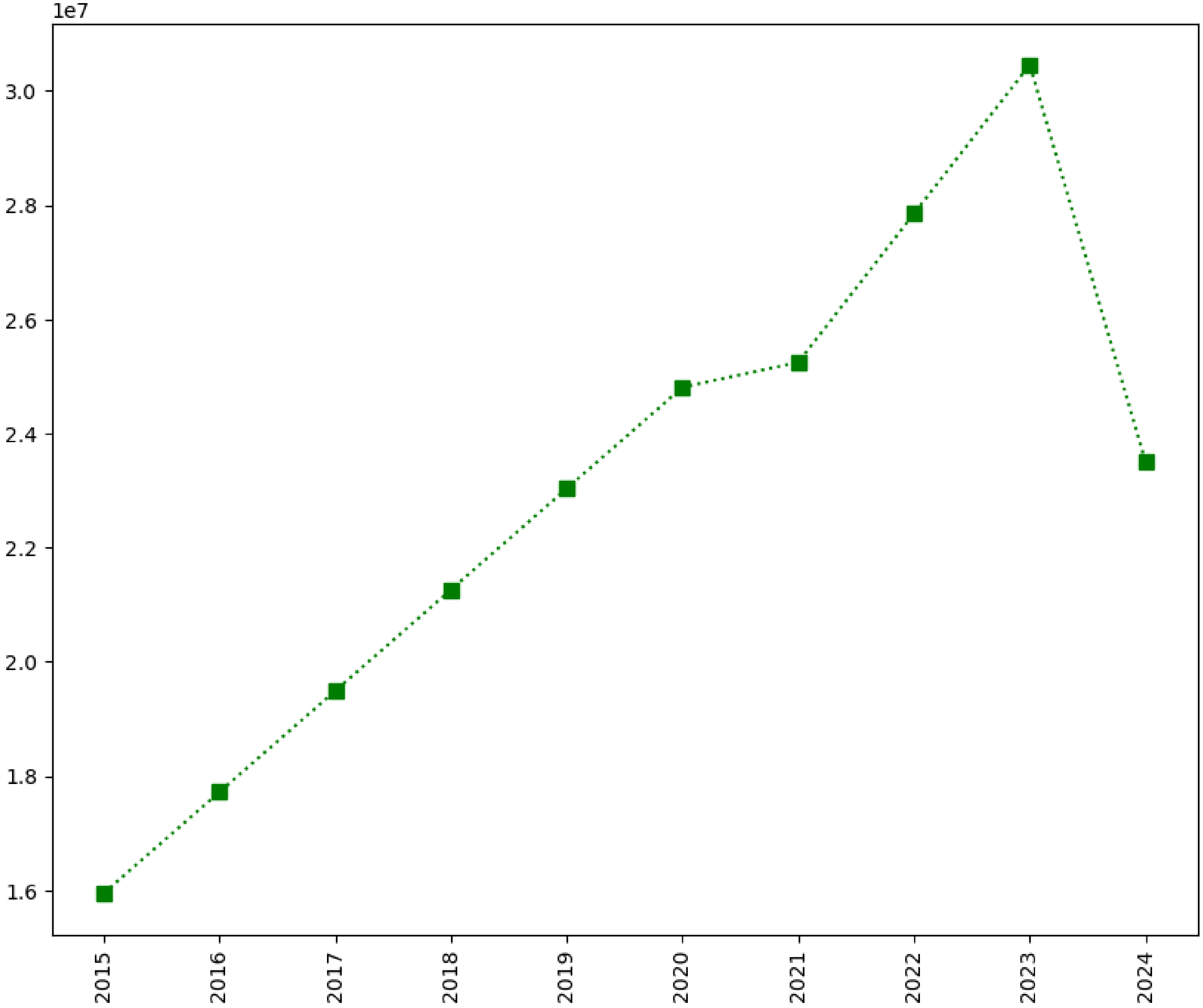
```
Out[36]: {'Sachin': 0,
          'Rahul': 1,
          'Smith': 2,
          'Sami': 3,
          'Pollard': 4,
          'Morris': 5,
          'Samson': 6,
          'Dhoni': 7,
          'Kohli': 8,
          'Sky': 9}
```

```
In [37]: plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7)
         plt.xticks(list(range(0,10)), Seasons)
         plt.show()
```



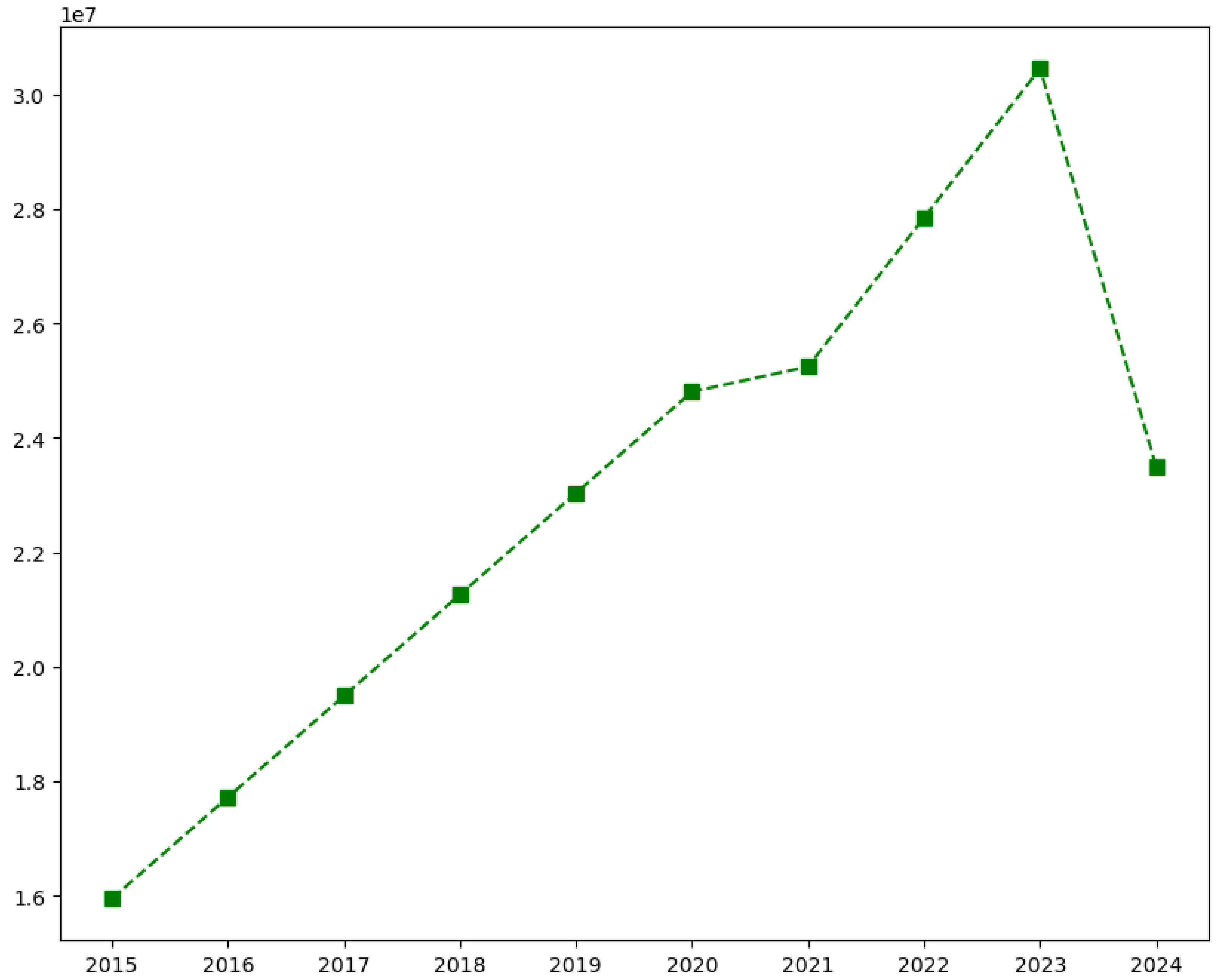
In [38]:

```
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()
```


1e7
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

In [39]:

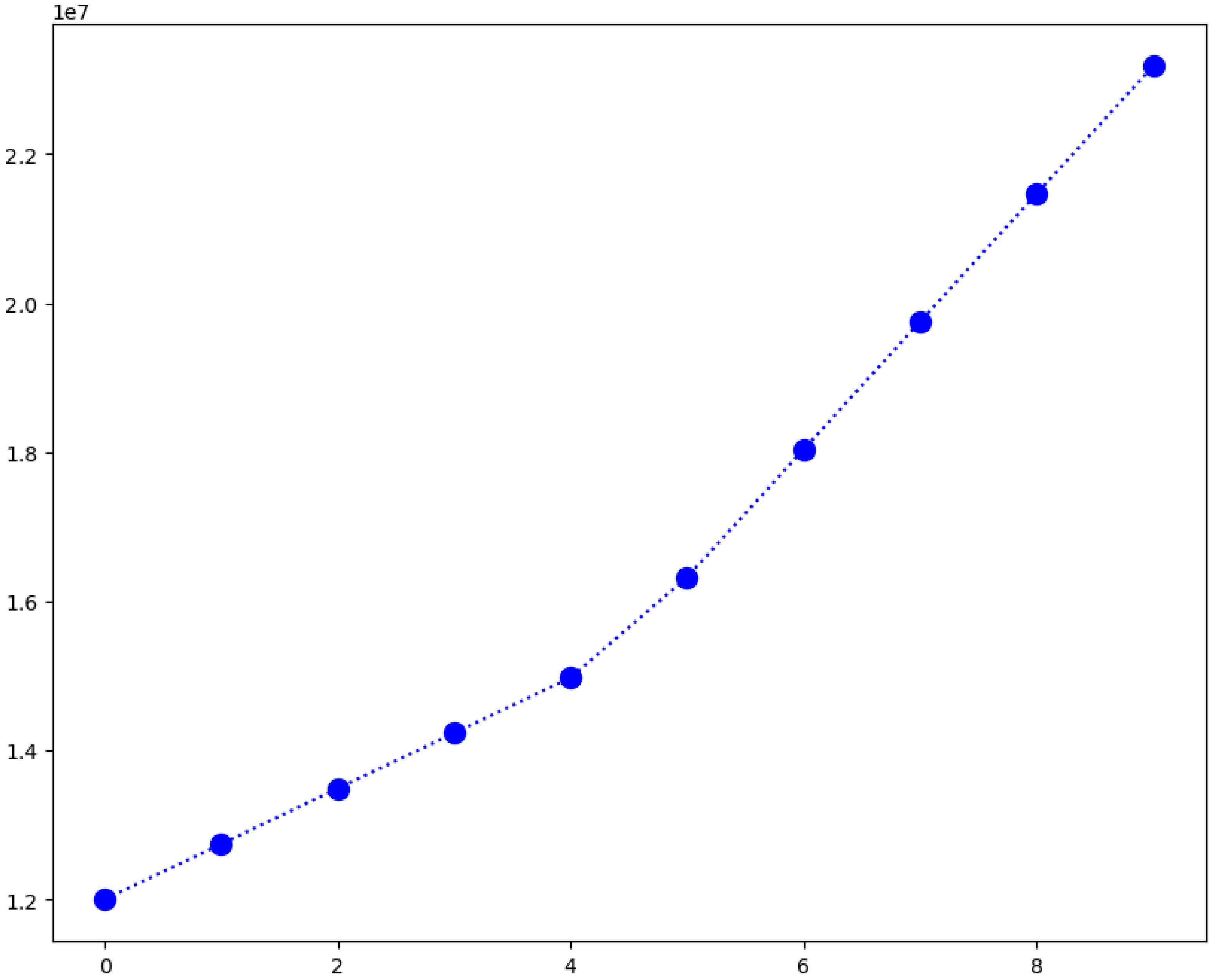
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Players[0])
plt.xticks(list(range(0,10)), Seasons,rotation='horizontal')
plt.show()
```



In [40]:

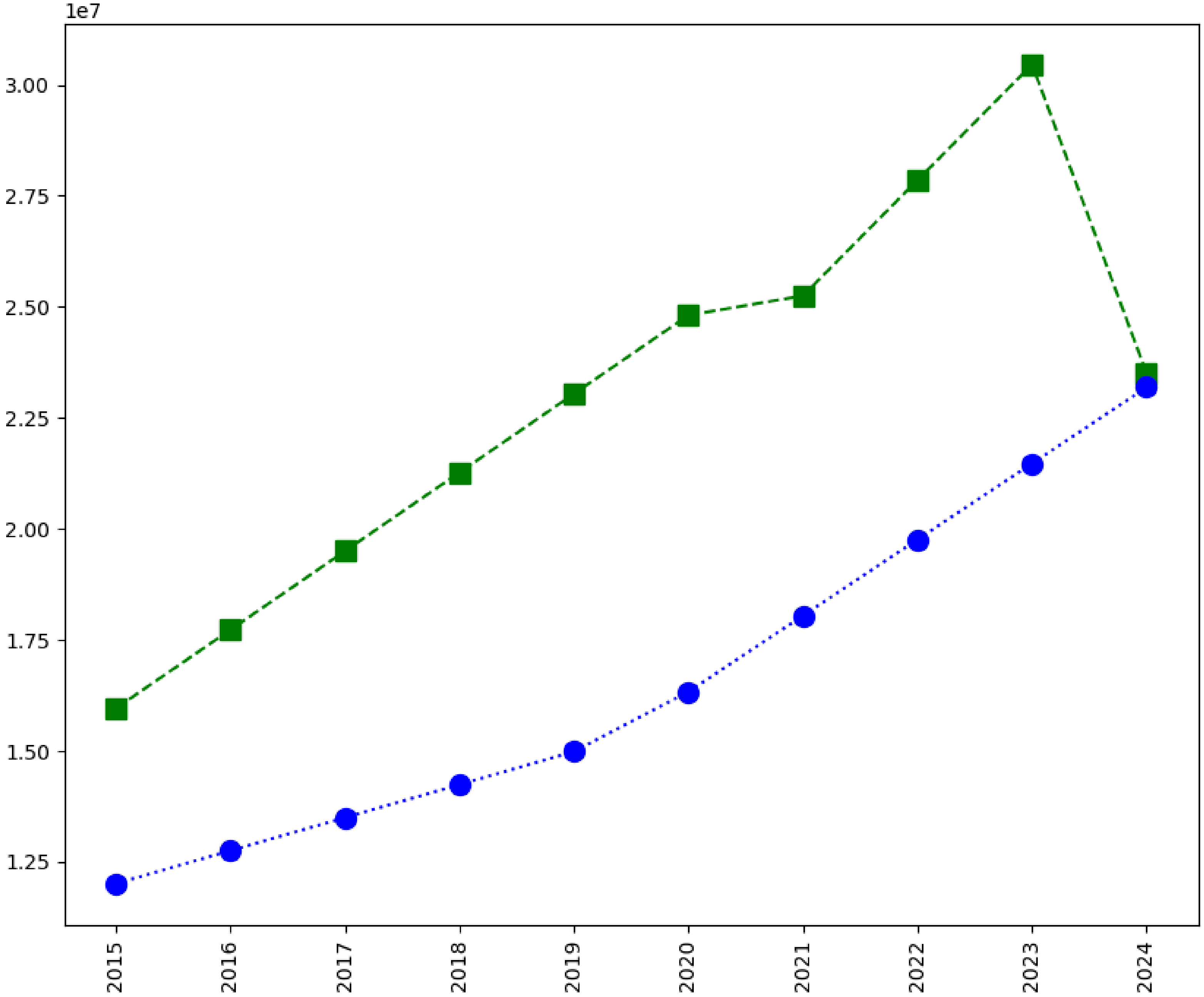
```
plt.plot(Salary[1], c='Blue', ls = ':', marker = 'o', ms = 10, label = Players[1])
```

```
Out[40]: [<matplotlib.lines.Line2D at 0x1407b998ec0>]
```



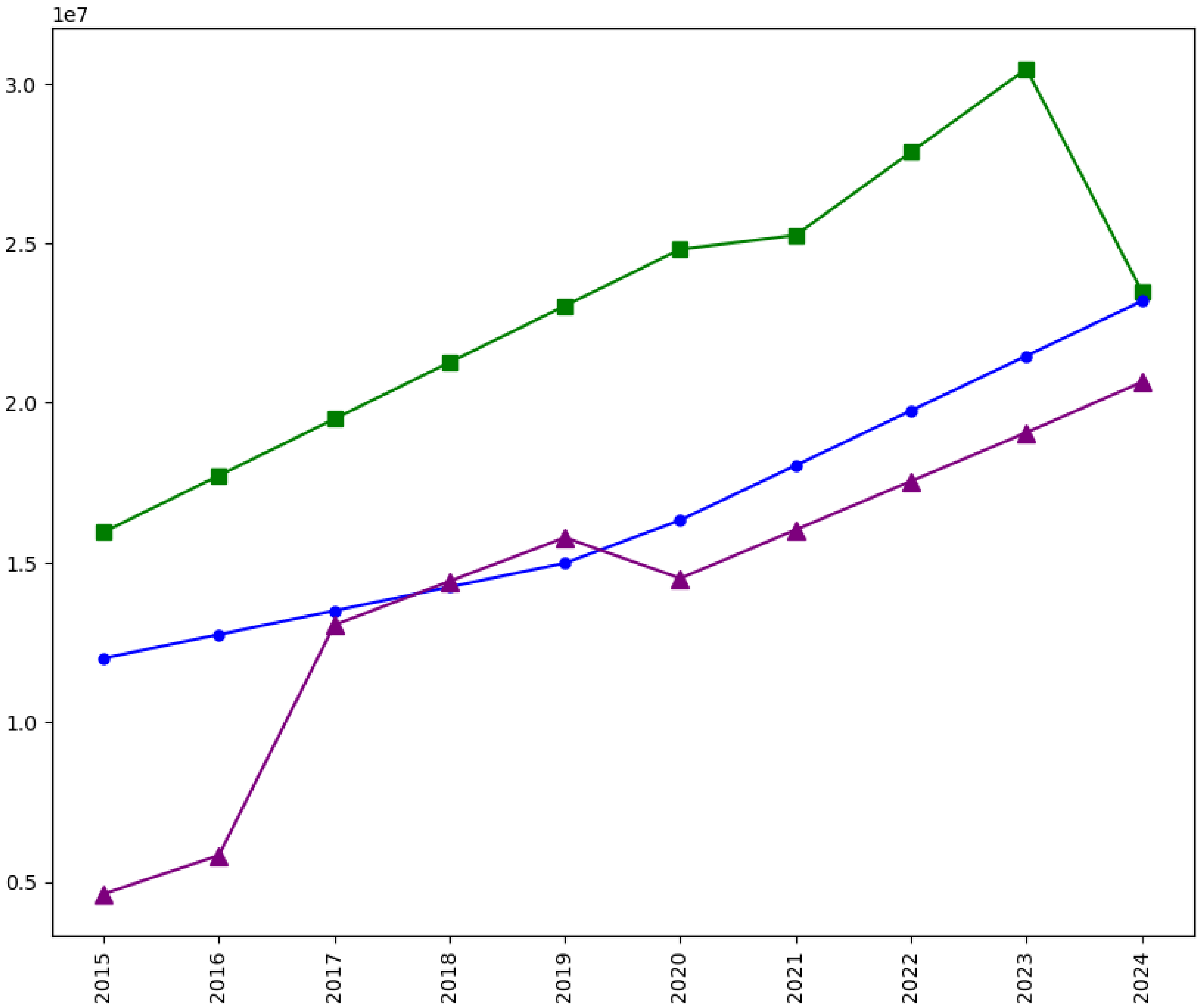
In [41]:

```
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()
```


1e7
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

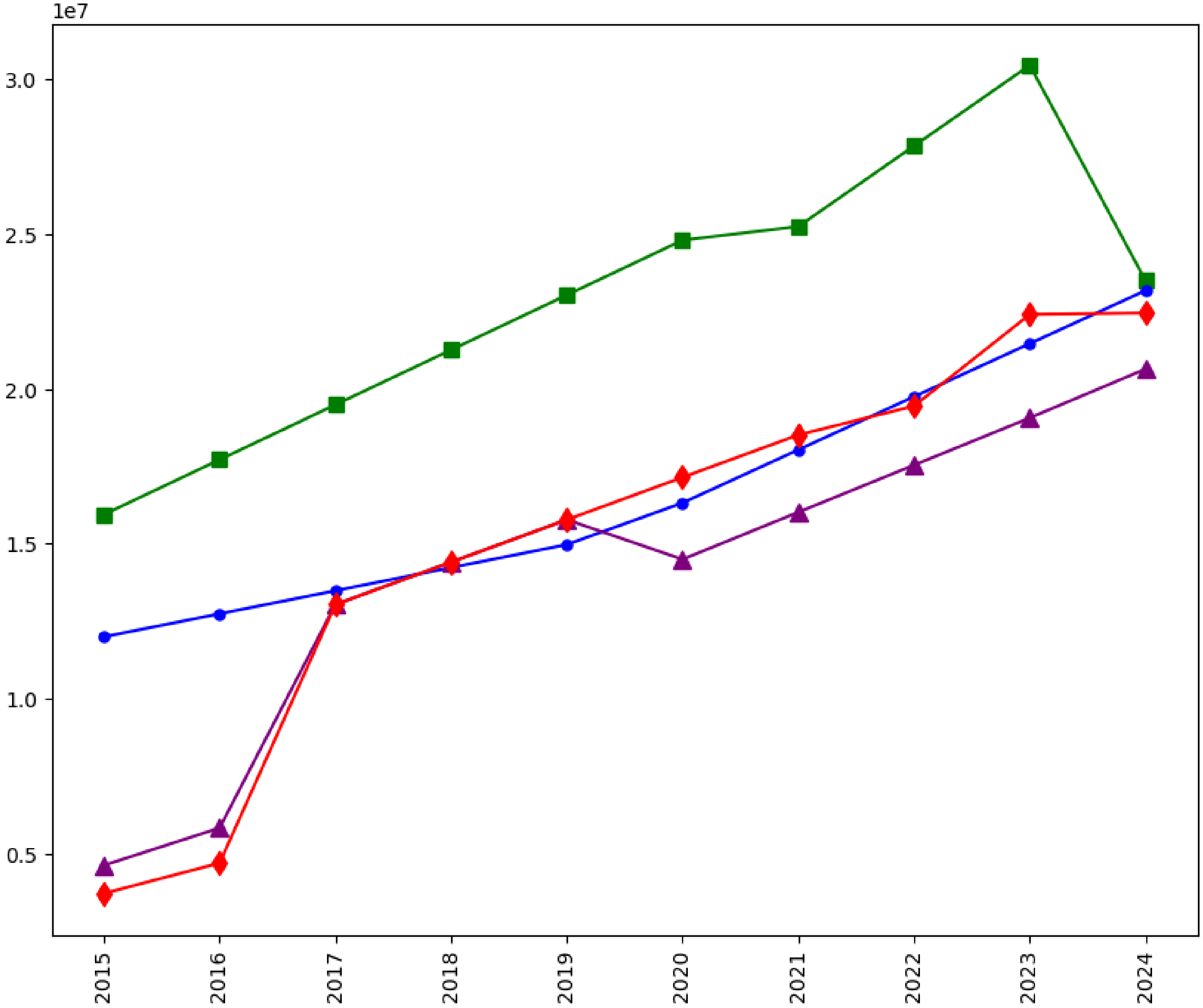
In [43]:

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


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

plt.show()
```


1e7
3.0
2.5
2.0
1.5
1.0
0.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

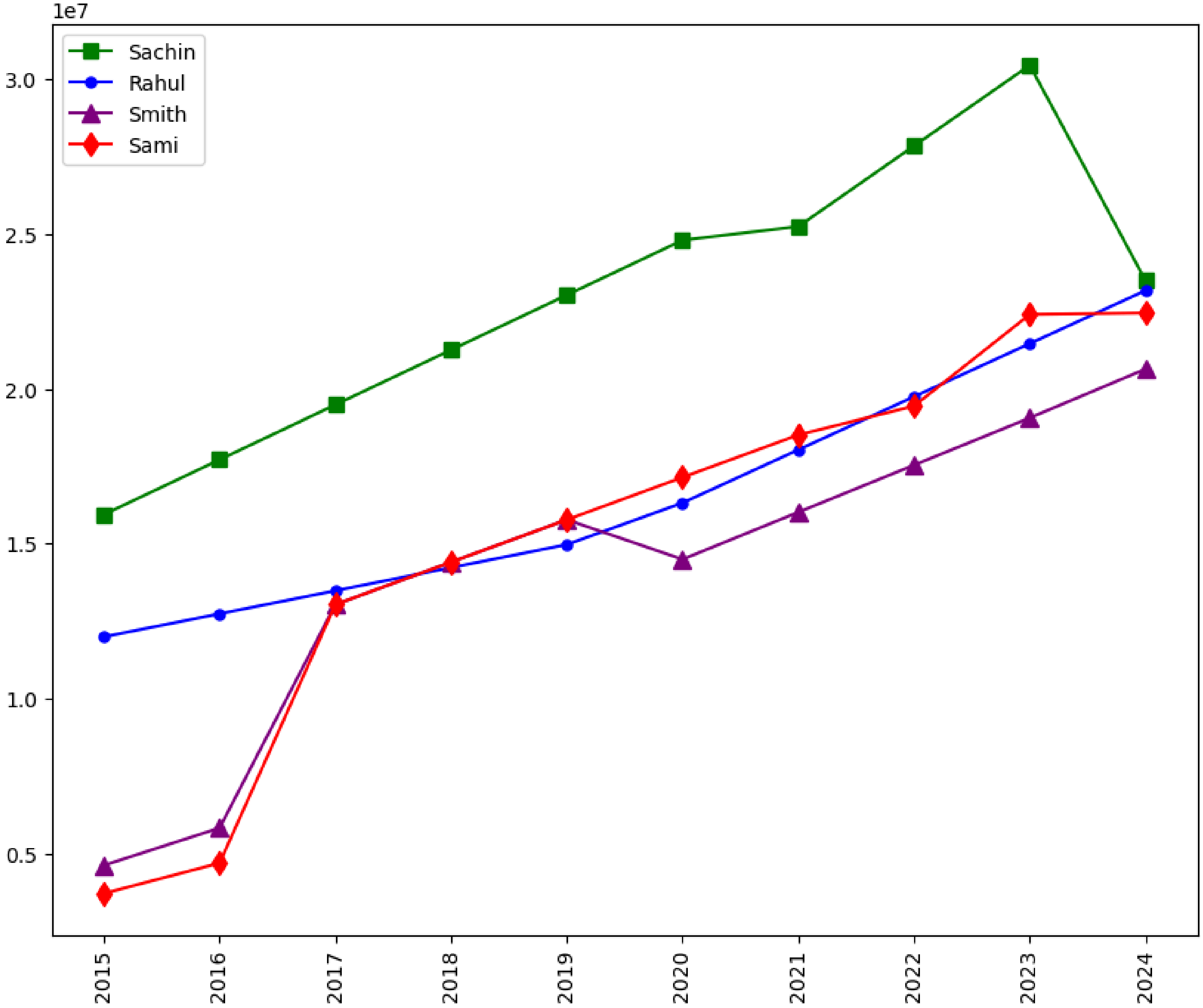
In [44]:

```
plt.plot(Salary[0], c='Green', marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue',  marker = 'o', ms = 5, label = Players[1])
plt.plot(Salary[2], c='purple', marker = '^', ms = 8, label = Players[2])
plt.plot(Salary[3], c='Red', marker = 'd', ms = 8, label = Players[3])


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

plt.show()
```


1e7
3.0
2.5
2.0
1.5
1.0
0.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

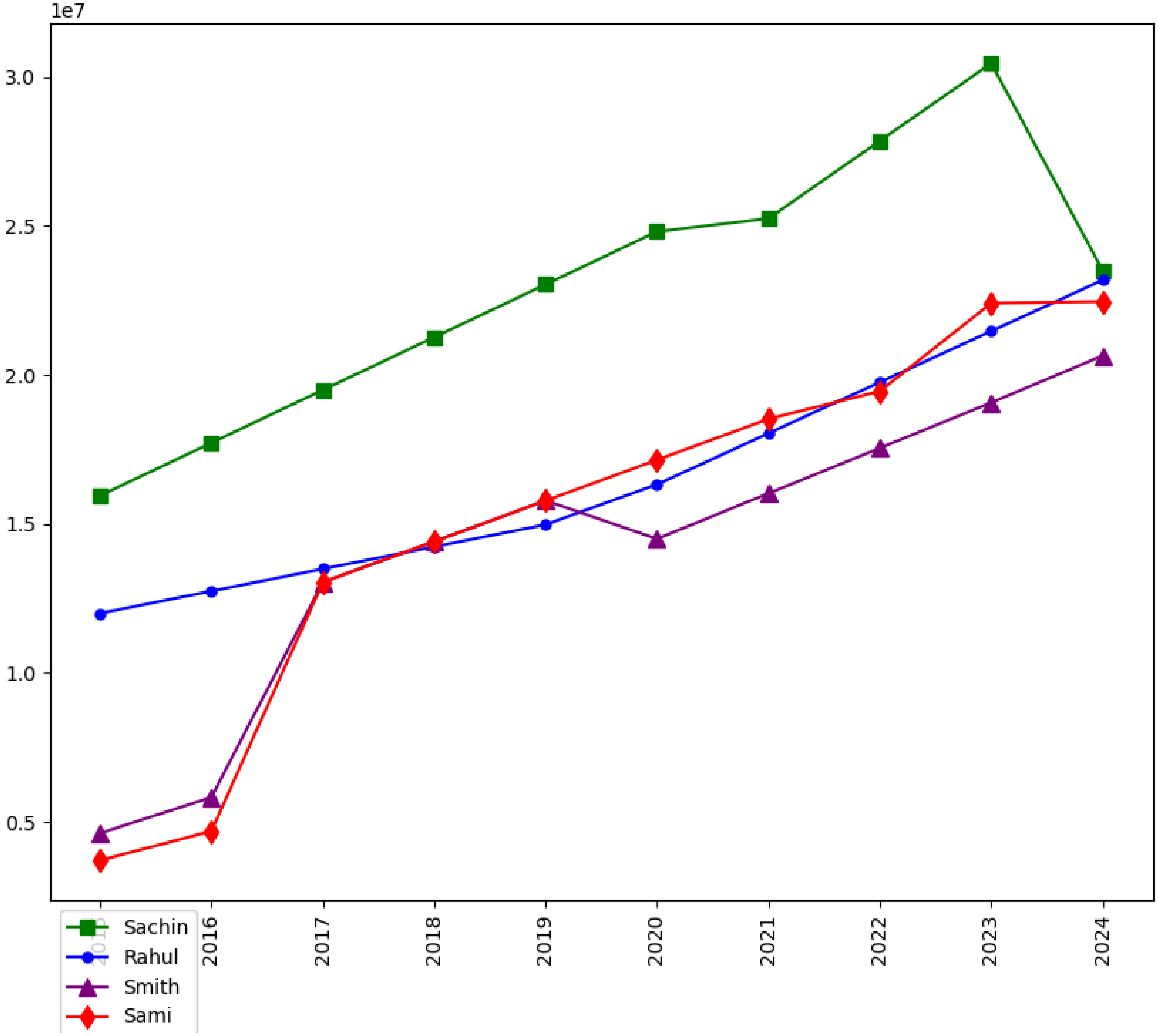
In [45]:

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

plt.show()
```


1e7
Sachin
Rahul
Smith
Sami
3.0
2.5
2.0
1.5
1.0
0.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024

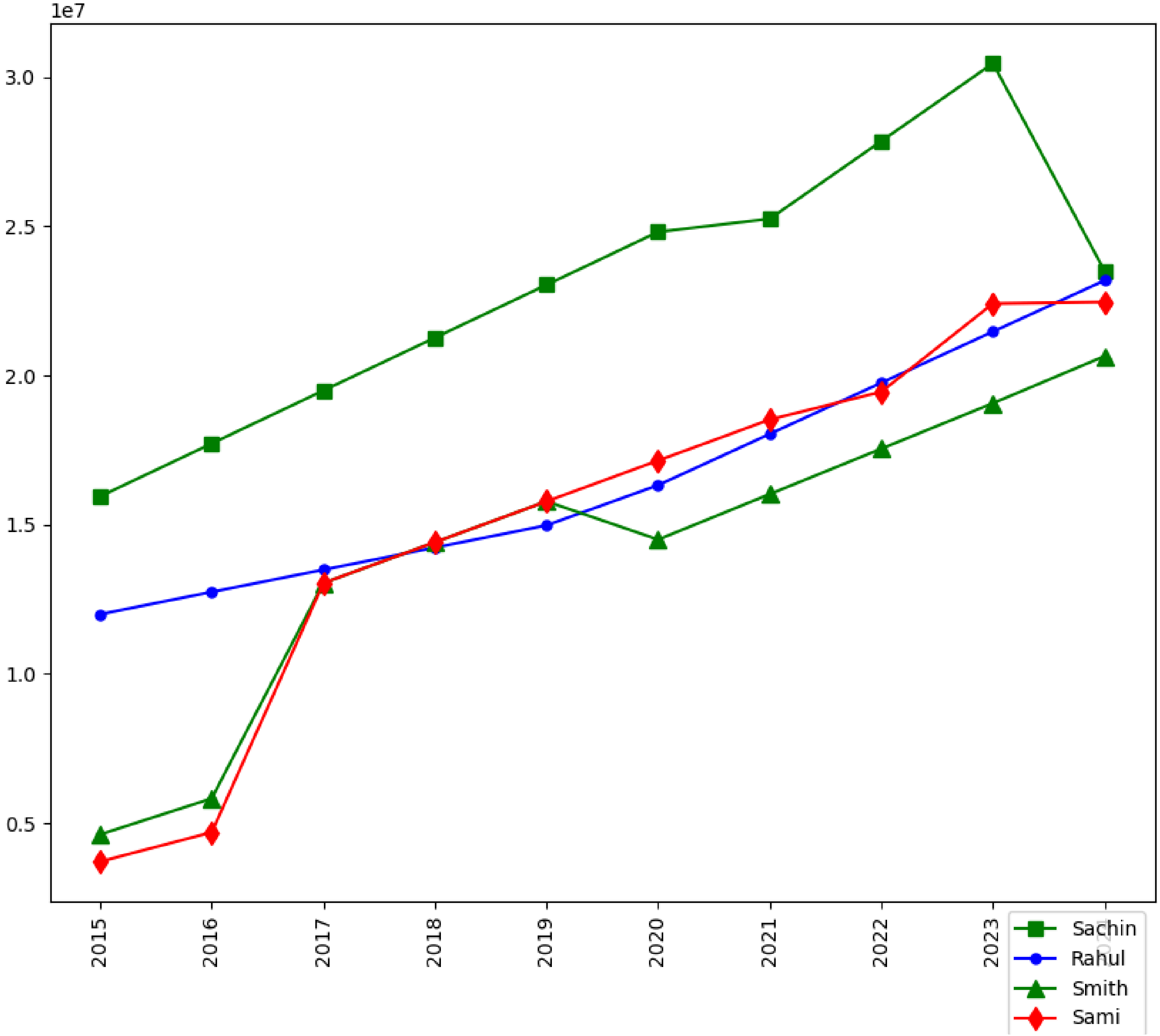
In [48]:

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

plt.show()
```


1e7
3.0
2.5
2.0
1.5
1.0
0.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Sachin
Rahul
Smith
Sami

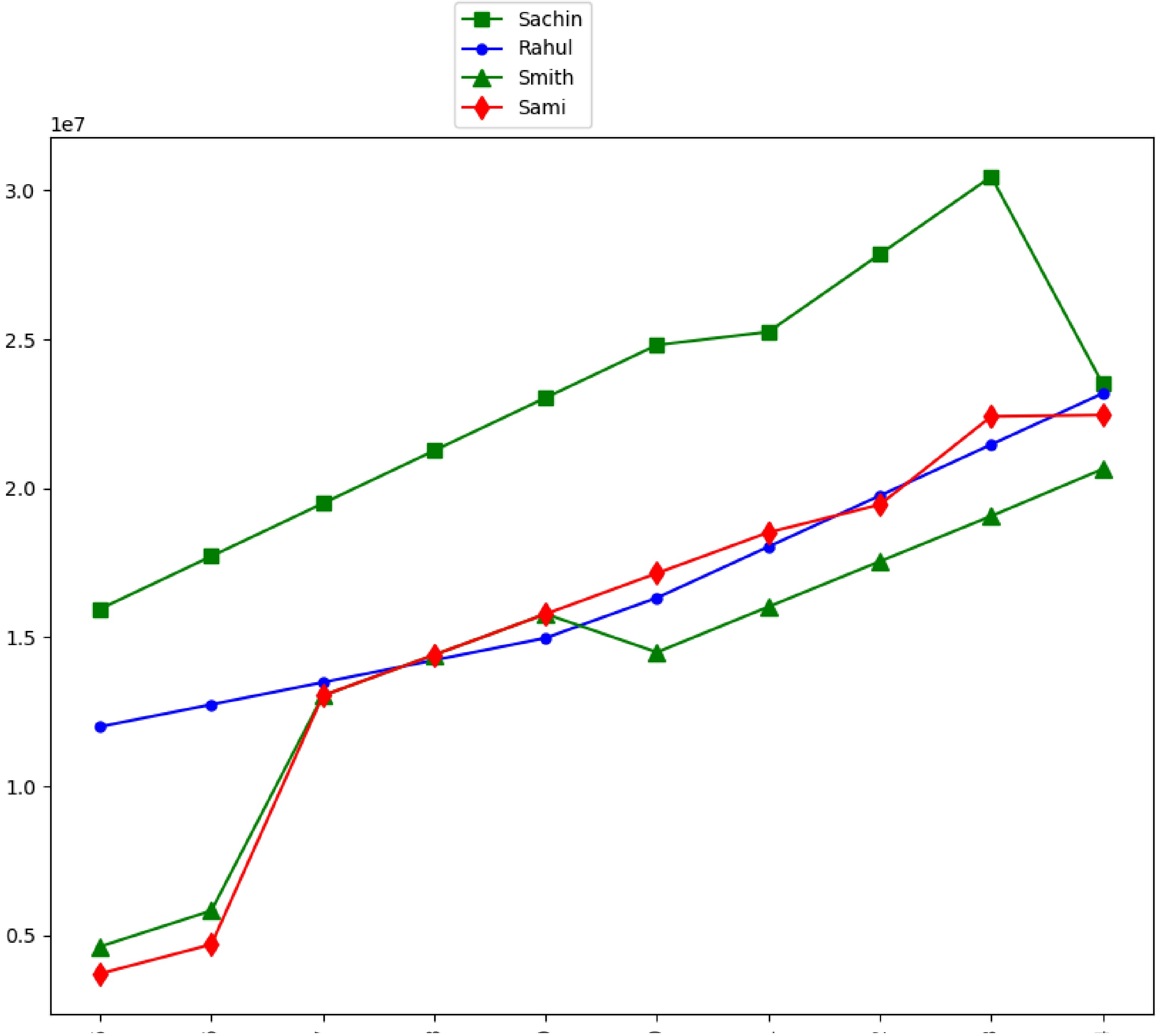
In [49]:

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

plt.show()
```


1e7
3.0
2.5
2.0
1.5
1.0
0.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
Sachin
Rahul
Smith
Sami

In [50]:

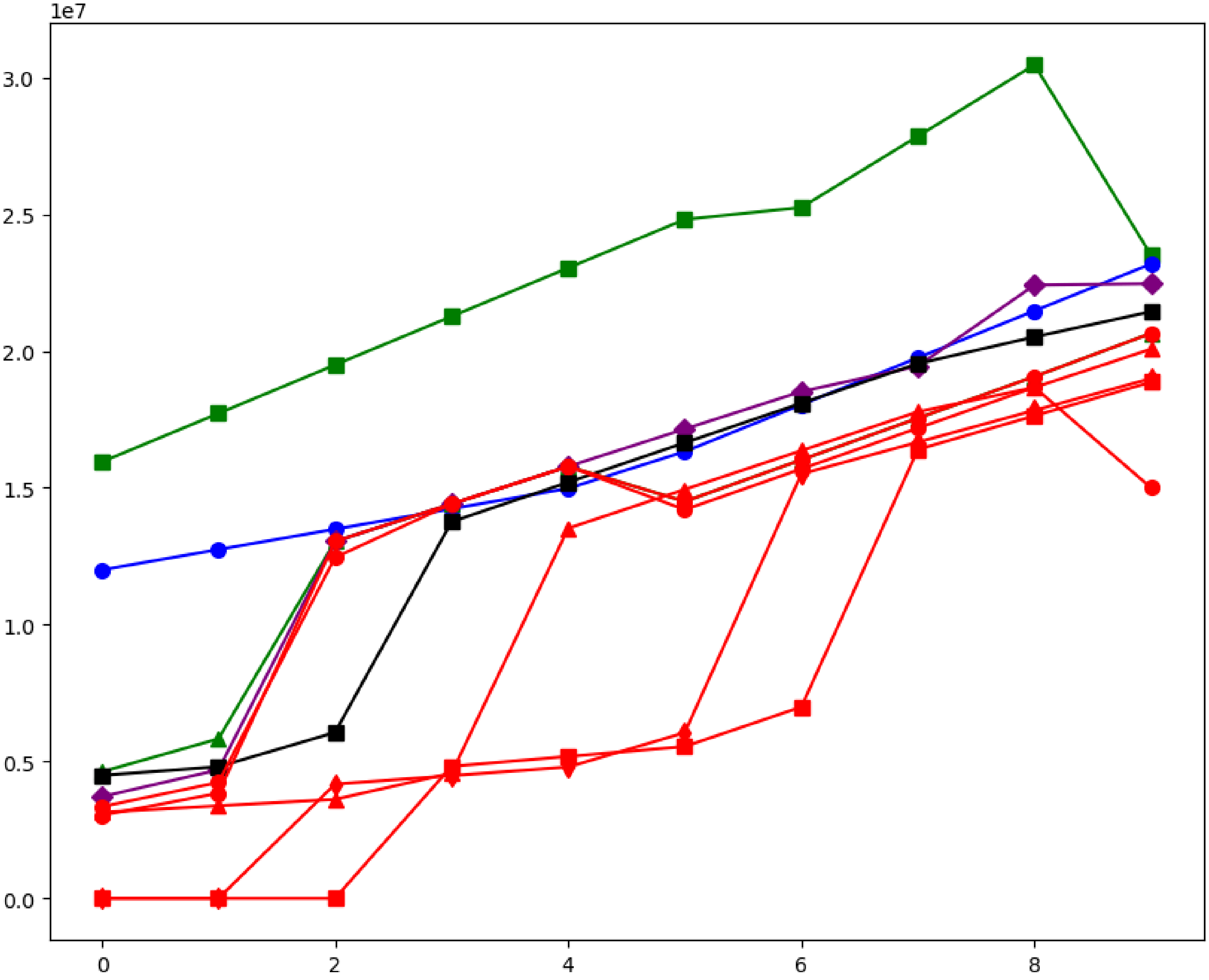
```
plt.plot(Salary[0], c='Green',  marker = 's', ms = 7, label = Players[0])
plt.plot(Salary[1], c='Blue', marker = 'o', ms = 5, label = Players[1])
plt.plot(Salary[2], c='Green', marker = '^', ms = 8, label = Players[2])
plt.plot(Salary[3], c='Red',  marker = 'd', ms = 8, label = Players[3])
plt.legend(loc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

plt.show()
```


Sachin
Rahul
Smith
Sami
1e7
3.0
2.5
2.0
1.5
1.0
0.5

In [51]:

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

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

plt.show()
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[51], line 12
      9 plt.plot(Salary[8], c='Red', marker = 's', ms = 7, label = Players[8])
     10 plt.plot(Salary[9], c='Red',  marker = 'o', ms = 7, label = Players[9])
---> 12 plt.legend(loc = 'lover right',bbox_to_anchor=(0.5,1) )
     13 plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
     15 plt.show()

File ~\anaconda3\Lib\site-packages\matplotlib\pyplot.py:3384, in legend(*args, **kwargs)
   3382 @_copy_docstring_and_deprecators(Axes.legend)
   3383 def legend(*args, **kwargs) -> Legend:
-> 3384     return gca().legend(*args, **kwargs)

File ~\anaconda3\Lib\site-packages\matplotlib\axes\_axes.py:323, in Axes.legend(self, *args, **kwargs)
    206 """
    207 Place a legend on the Axes.
    208
   (...)
    320 .. plot:: gallery/text_labels_and_annotations/legend.py
    321 """
    322 handles, labels, kwargs = mlegend._parse_legend_args([self], *args, **kwargs)
--> 323 self.legend_ = mlegend.Legend(self, handles, labels, **kwargs)
    324 self.legend_._remove_method = self._remove_legend
    325 return self.legend_

File ~\anaconda3\Lib\site-packages\matplotlib\legend.py:566, in Legend.__init__(self, parent, handles, labels, loc, numpoints, markers
cale, markerfirst, reverse, scatterpoints, scatteryoffsets, prop, fontsize, labelcolor, borderpad, labelspacing, handlelength, handleh
eight, handletextpad, borderaxespad, columnspacing, ncols, mode, fancybox, shadow, title, title_fontsize, framealpha, edgecolor, facec
olor, bbox_to_anchor, bbox_transform, frameon, handler_map, title_fontproperties, alignment, ncol, draggable)
    563 self._init_legend_box(handles, labels, markerfirst)
    565 # Set legend location
--> 566 self.set_loc(loc)
    568 # figure out title font properties:
    569 if title_fontsize is not None and title_fontproperties is not None:

File ~\anaconda3\Lib\site-packages\matplotlib\legend.py:687, in Legend.set_loc(self, loc)
    685             loc = locs[0] + ' ' + locs[1]
    686     # check that loc is in acceptable strings
--> 687     loc = _api.check_getitem(self.codes, loc=loc)
    688 elif np.iterable(loc):
    689     # coerce iterable into tuple
    690     loc = tuple(loc)

File ~\anaconda3\Lib\site-packages\matplotlib\_api\__init__.py:183, in check_getitem(mapping, **kwargs)
    181     return mapping[v]
    182 except KeyError:
--> 183     raise ValueError(
    184         f"{v!r} is not a valid value for {k}; supported values are "
    185         f"{', '.join(map(repr, mapping))}") from None

ValueError: 'lover right' is not a valid value for loc; supported values are 'best', 'upper right', 'upper left', 'lower left', 'lower
right', 'right', 'center left', 'center right', 'lower center', 'upper center', 'center'
```

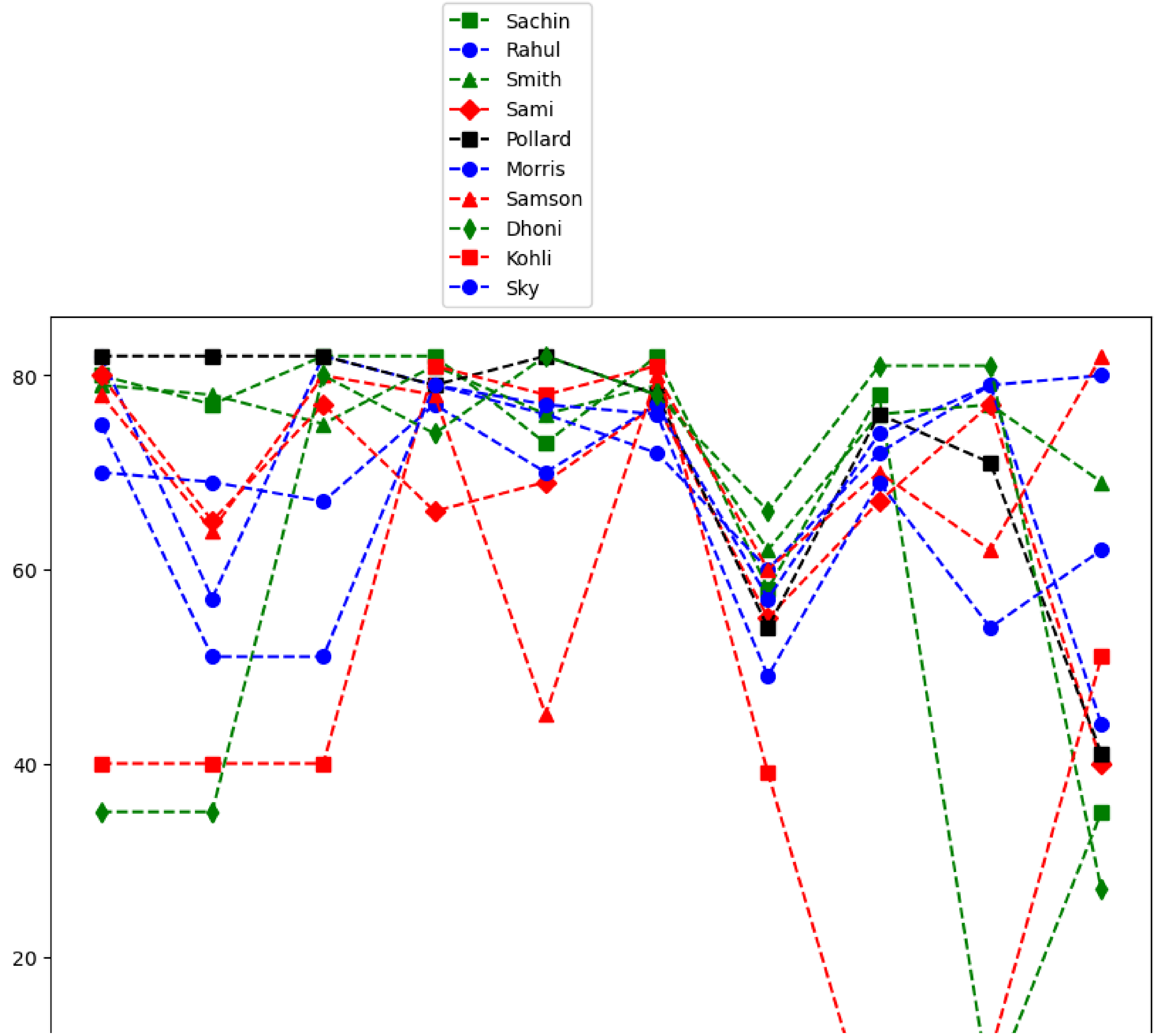


```
In [ ]:
```

we can visualize thAT HOW many games played by a player

In [52]:

```
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()
```


Sachin
Rahul
Smith
Sami
Pollard
Morris
Samson
Dhoni
Kohli
Sky
80
60
40
20

```
In [ ]:
```