

```
In [98]: #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, 27810000, 30625000, 34250000, 38125000, 42100000, 46175000, 50250000, 54325000, 58400000, 62475000, 66550000, 70625000, 74700000, 78775000, 82850000, 86925000, 90900000, 94975000, 98950000, 102925000, 106900000, 110875000, 114850000, 118825000, 122790000, 126765000, 130740000, 134715000, 138690000, 142665000, 146640000, 150615000, 154590000, 158565000, 162540000, 166515000, 170490000, 174465000, 178440000, 182415000, 186390000, 190365000, 194340000, 198315000, 202290000, 206265000, 210240000, 214215000, 218190000, 222165000, 226140000, 230115000, 234090000, 238065000, 242040000, 246015000, 250090000, 254065000, 258040000, 262015000, 266090000, 270065000, 274040000, 278015000, 282090000, 286065000, 290040000, 294015000, 298090000, 302065000, 306040000, 310015000, 314090000, 318065000, 322040000, 326015000, 330090000, 334065000, 338040000, 342015000, 346090000, 350065000, 354040000, 358015000, 362090000, 366065000, 370040000, 374015000, 378090000, 382065000, 386040000, 390015000, 394090000, 398065000, 402040000, 406015000, 410090000, 414065000, 418040000, 422015000, 426090000, 430065000, 434040000, 438015000, 442090000, 446065000, 450040000, 454015000, 458090000, 462065000, 466040000, 470015000, 474090000, 478065000, 482040000, 486015000, 490090000, 494065000, 498040000, 502015000, 506090000, 510065000, 514040000, 518015000, 522090000, 526065000, 530040000, 534015000, 538090000, 542065000, 546040000, 550015000, 554090000, 558065000, 562040000, 566015000, 570090000, 574065000, 578040000, 582015000, 586090000, 590065000, 594040000, 598015000, 602090000, 606065000, 610040000, 614015000, 618090000, 622065000, 626040000, 630015000, 634090000, 638065000, 642040000, 646015000, 650090000, 654065000, 658040000, 662015000, 666090000, 670065000, 674040000, 678015000, 682090000, 686065000, 690040000, 694015000, 698090000, 702065000, 706040000, 710015000, 714090000, 718065000, 722040000, 726015000, 730090000, 734065000, 738040000, 742015000, 746090000, 750065000, 754040000, 758015000, 762090000, 766065000, 770040000, 774015000, 778090000, 782065000, 786040000, 790015000, 794090000, 798065000, 802040000, 806015000, 810090000, 814065000, 818040000, 822015000, 826090000, 830065000, 834040000, 838015000, 842090000, 846065000, 850040000, 854015000, 858090000, 862065000, 866040000, 870015000, 874090000, 878065000, 882040000, 886015000, 890090000, 894065000, 898040000, 902015000, 906090000, 910065000, 914040000, 918015000, 922090000, 926065000, 930040000, 934015000, 938090000, 942065000, 946040000, 950015000, 954090000, 958065000, 962040000, 966015000, 970090000, 974065000, 978040000, 982015000, 986090000, 990065000, 994040000, 998015000, 1002090000, 1006065000, 1010040000, 1014015000, 1018090000, 1022065000, 1026040000, 1030015000, 1034090000, 1038065000, 1042040000, 1046015000, 1050090000, 1054065000, 1058040000, 1062015000, 1066090000, 1070065000, 1074040000, 1078015000, 1082090000, 1086065000, 1090040000, 1094015000, 1098090000, 1102065000, 1106040000, 1110015000, 1114090000, 1118065000, 1122040000, 1126015000, 1130090000, 1134065000, 1138040000, 1142015000, 1146090000, 1150065000, 1154040000, 1158015000, 1162090000, 1166065000, 1170040000, 1174015000, 1178090000, 1182065000, 1186040000, 1190015000, 1194090000, 1198065000, 1202040000, 1206015000, 1210090000, 1214065000, 1218040000, 1222015000, 1226090000, 1230065000, 1234040000, 1238015000, 1242090000, 1246065000, 1250040000, 1254015000, 1258090000, 1262065000, 1266040000, 1270015000, 1274090000, 1278065000, 1282040000, 1286015000, 1290090000, 1294065000, 1298040000, 1302015000, 1306090000, 1310065000, 1314040000, 1318015000, 1322090000, 1326065000, 1330040000, 1334015000, 1338090000, 1342065000, 1346040000, 1350015000, 1354090000, 1358065000, 1362040000, 1366015000, 1370090000, 1374065000, 1378040000, 1382015000, 1386090000, 1390065000, 1394040000, 1398015000, 1402090000, 1406065000, 1410040000, 1414015000, 1418090000, 1422065000, 1426040000, 1430015000, 1434090000, 1438065000, 1442040000, 1446015000, 1450090000, 1454065000, 1458040000, 1462015000, 1466090000, 1470065000, 1474040000, 1478015000, 1482090000, 1486065000, 1490040000, 1494015000, 1498090000, 1502065000, 1506040000, 1510015000, 1514090000, 1518065000, 1522040000, 1526015000, 1530090000, 1534065000, 1538040000, 1542015000, 1546090000, 1550065000, 1554040000, 1558015000, 1562090000, 1566065000, 1570040000, 1574015000, 1578090000, 1582065000, 1586040000, 1590015000, 1594090000, 1598065000, 1602040000, 1606015000, 1610090000, 1614065000, 1618040000, 1622015000, 1626090000, 1630065000, 1634040000, 1638015000, 1642090000, 1646065000, 1650040000, 1654015000, 1658090000, 1662065000, 1666040000, 1670015000, 1674090000, 1678065000, 1682040000, 1686015000, 1690090000, 1694065000, 1698040000, 1702015000, 1706090000, 1710065000, 1714040000, 1718015000, 1722090000, 1726065000, 1730040000, 1734015000, 1738090000, 1742065000, 1746040000, 1750015000, 1754090000, 1758065000, 1762040000, 1766015000, 1770090000, 1774065000, 1778040000, 1782015000, 1786090000, 1790065000, 1794040000, 1798015000, 1802090000, 1806065000, 1810040000, 1814015000, 1818090000, 1822065000, 1826040000, 1830015000, 1834090000, 1838065000, 1842040000, 1846015000, 1850090000, 1854065000, 1858040000, 1862015000, 1866090000, 1870065000, 1874040000, 1878015000, 1882090000, 1886065000, 1890040000, 1894015000, 1898090000, 1902065000, 1906040000, 1910015000, 1914090000, 1918065000, 1922040000, 1926015000, 1930090000, 1934065000, 1938040000, 1942015000, 1946090000, 1950065000, 1954040000, 1958015000, 1962090000, 1966065000, 1970040000, 1974015000, 1978090000, 1982065000, 1986040000, 1990015000, 1994090000, 1998065000, 2002040000, 2006015000, 2010090000, 2014065000, 2018040000, 2022015000, 2026090000, 2030065000, 2034040000, 2038015000, 2042090000, 2046065000, 2050040000, 2054015000, 2058090000, 2062065000, 2066040000, 2070015000, 2074090000, 2078065000, 2082040000, 2086015000, 2090090000, 2094065000, 2098040000, 2102015000, 2106090000, 2110065000, 2114040000, 2118015000, 2122090000, 2126065000, 2130040000, 2134015000, 2138090000, 2142065000, 2146040000, 2150015000, 2154090000, 2158065000, 2162040000, 2166015000, 2170090000, 2174065000, 2178040000, 2182015000, 2186090000, 2190065000, 2194040000, 2198015000, 2202090000, 2206065000, 2210040000, 2214015000, 2218090000, 2222065000, 2226040000, 2230015000, 2234090000, 2238065000, 2242040000, 2246015000, 2250090000, 2254065000, 2258040000, 2262015000, 2266090000, 2270065000, 2274040000, 2278015000, 2282090000, 2286065000, 2290040000, 2294015000, 2298090000, 2302065000, 2306040000, 2310015000, 2314090000, 2318065000, 2322040000, 2326015000, 2330090000, 2334065000, 2338040000, 2342015000, 2346090000, 2350065000, 2354040000, 2358015000, 2362090000, 2366065000, 2370040000, 2374015000, 2378090000, 2382065000, 2386040000, 2390015000, 2394090000, 2398065000, 2402040000, 2406015000, 2410090000, 2414065000, 2418040000, 2422015000, 2426090000, 2430065000, 2434040000, 2438015000, 2442090000, 2446065000, 2450040000, 2454015000, 2458090000, 2462065000, 2466040000, 2470015000, 2474090000, 2478065000, 2482040000, 2486015000, 2490090000, 2494065000, 2498040000, 2502015000, 2506090000, 2510065000, 2514040000, 2518015000, 2522090000, 2526065000, 2530040000, 2534015000, 2538090000, 2542065000, 2546040000, 2550015000, 2554090000, 2558065000, 2562040000, 2566015000, 2570090000, 2574065000, 2578040000, 2582015000, 2586090000, 2590065000, 2594040000, 2598015000, 2602090000, 2606065000, 2610040000, 2614015000, 2618090000, 2622065000, 2626040000, 2630015000, 2634090000, 2638065000, 2642040000, 2646015000, 2650090000, 2654065000, 2658040000, 2662015000, 2666090000, 2670065000, 2674040000, 2678015000, 2682090000, 2686065000, 2690040000, 2694015000, 2698090000, 2702065000, 2706040000, 2710015000, 2714090000, 2718065000, 2722040000, 2726015000, 2730090000, 2734065000, 2738040000, 2742015000, 2746090000, 2750065000, 2754040000, 2758015000, 2762090000, 2766065000, 2770040000, 2774015000, 2778090000, 2782065000, 2786040000, 2790015000, 2794090000, 2798065000, 2802040000, 2806015000, 2810090000, 2814065000, 2818040000, 2822015000, 2826090000, 2830065000, 2834040000, 2838015000, 2842090000, 2846065000, 2850040000, 2854015000, 2858090000, 2862065000, 2866040000, 2870015000, 2874090000, 2878065000, 2882040000, 2886015000, 2890090000, 2894065000, 2898040000, 2902015000, 2906090000, 2910065000, 2914040000, 2918015000, 2922090000, 2926065000, 2930040000, 2934015000, 2938090000, 2942065000, 2946040000, 2950015000, 2954090000, 2958065000, 2962040000, 2966015000, 2970090000, 2974065000, 2978040000, 2982015000, 2986090000, 2990065000, 2994040000, 2998015000, 3002090000, 3006065000, 3010040000, 3014015000, 3018090000, 3022065000, 3026040000, 3030015000, 3034090000, 3038065000, 3042040000, 3046015000, 3050090000, 3054065000, 3058040000, 3062015000, 3066090000, 3070065000, 3074040000, 3078015000, 3082090000, 3086065000, 3090040000, 3094015000, 3098090000, 3102065000, 3106040000, 3110015000, 3114090000, 3118065000, 3122040000, 3126015000, 3130090000, 3134065000, 3138040000, 3142015000, 3146090000, 3150065000, 3154040000, 3158015000, 3162090000, 3166065000, 3170040000, 3174015000, 3178090000, 3182065000, 3186040000, 3190015000, 3194090000, 3198065000, 3202040000, 3206015000, 3210090000, 3214065000, 3218040000, 3222015000, 3226090000, 3230065000, 3234040000, 3238015000, 3242090000, 3246065000, 3250040000, 3254015000, 3258090000, 3262065000, 3266040000, 3270015000, 3274090000, 3278065000, 3282040000, 3286015000, 3290090000, 3294065000, 3298040000, 3302015000, 3306090000, 3310065000, 3314040000, 3318015000, 3322090000, 3326065000, 3330040000, 3334015000, 3338090000, 3342065000, 3346040000, 3350015000, 3354090000, 3358065000, 3362040000, 3366015000, 3370090000, 3374065000, 3378040000, 3382015000, 3386090000, 3390065000, 3394040000, 3398015000, 3402090000, 3406065000, 3410040000, 3414015000, 3418090000, 3422065000, 3426040000, 3430015000, 3434090000, 3438065000, 3442040000, 3446015000, 3450090000, 3454065000, 3458040000, 3462015000, 3466090000, 3470065000, 3474040000, 3478015000, 3482090000, 3486065000, 3490040000, 3494015000, 3498090000, 3502065000, 3506040000, 3510015000, 3514090000, 3518065000, 3522040000, 3526015000, 3530090000, 3534065000, 3538040000, 3542015000, 3546090000, 3550065000, 3554040000, 3558015000, 3562090000, 3566065000, 3570040000, 3574015000, 3578090000, 3582065000, 3586040000, 3590015000, 3594090000, 3598065000, 3602040000, 3606015000, 3610090000, 3614065000, 3618040000, 3622015000, 3626090000, 3630065000, 3634040000, 3638015000, 3642090000, 3646065000, 3650040000, 3654015000, 3658090000, 3662065000, 3666040000, 3670015000, 3674090000, 3678065000, 3682040000, 3686015000, 3690090000, 3694065000, 3698040000, 3702015000, 3706090000, 3710065000, 3714040000, 3718015000, 3722090000, 3726065000, 3730040000, 3734015000, 3738090000, 3742065000, 3746040000, 3750015000, 3754090000, 3758
```

```
Out[99]: 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 [100... Games

```
Out[100... 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 [101... Points

```
Out[101... 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 [102... 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 [103... np.reshape(mydata,(4,5))

```
Out[103... array([[ 0,  1,  2,  3,  4],  
                  [ 5,  6,  7,  8,  9],  
                  [10, 11, 12, 13, 14],  
                  [15, 16, 17, 18, 19]])
```

```
In [104... mydata
```

```
Out[104... array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,  
                  17, 18, 19])
```

```
In [105... Games
```

```
Out[105... 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 [106... Games[5]
```

```
Out[106... array([70, 69, 67, 77, 70, 77, 57, 74, 79, 44])
```

```
In [107... Games[0:5]
```

```
Out[107... 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]])
```

```
In [108... Games[0,5]
```

```
Out[108... 82
```

```
In [109... Games[0,2]
```

```
Out[109... 82
```

```
In [110... Games[-3:-1]
```

```
Out[110... array([[35, 35, 80, 74, 82, 78, 66, 81, 81, 27],  
                  [40, 40, 40, 81, 78, 81, 39,  0, 10, 51]])
```

```
In [111... Games[-3,-1]
```

```
Out[111... 27
```

```
In [112... Pdict
```

```
Out[112... {'Sachin': 0,
             'Rahul': 1,
             'Smith': 2,
             'Sami': 3,
             'Pollard': 4,
             'Morris': 5,
             'Samson': 6,
             'Dhoni': 7,
             'Kohli': 8,
             'Sky': 9}
```

```
In [113... Pdict['Sachin']]
```

```
Out[113... 0
```

```
In [114... Games[0]]
```

```
Out[114... array([80, 77, 82, 82, 73, 82, 58, 78, 6, 35])
```

```
In [115... Games[Pdict['Sachin']]]
```

```
Out[115... array([80, 77, 82, 82, 73, 82, 58, 78, 6, 35])
```

```
In [116... Points]
```

```
Out[116... 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 [117... Salary]
```

```
Out[117... 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 [118... Games

```
Out[118... 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 [119... Salary/Games

```
Out[119... 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 [120... np.round(Salary/Games)
```

```
Out[120... 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 [121... import warnings
warnings.filterwarnings('ignore')
```

```
In [122... import matplotlib.pyplot as plt
```

```
In [123... %matplotlib inline
```

```
In [124... Salary
```

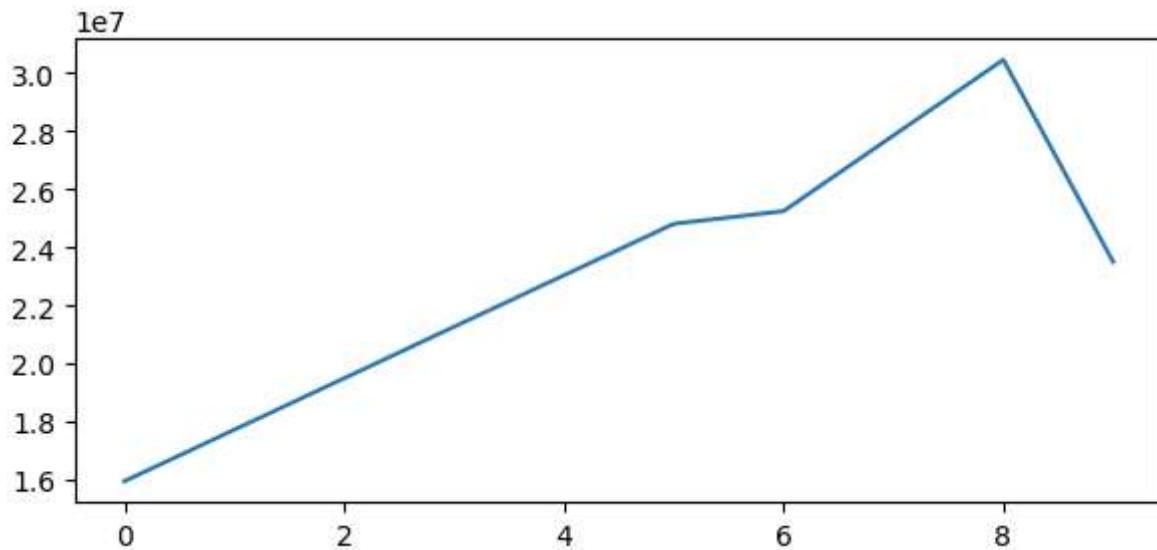
```
Out[124... array([[15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
   25244493, 27849149, 30453805, 23500000],
   [12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
   18038573, 19752645, 21466718, 23180790],
   [ 4621800,  5828090, 13041250, 14410581, 15779912, 14500000,
   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 [125... Salary[0]
```

```
Out[125... array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
   25244493, 27849149, 30453805, 23500000])
```

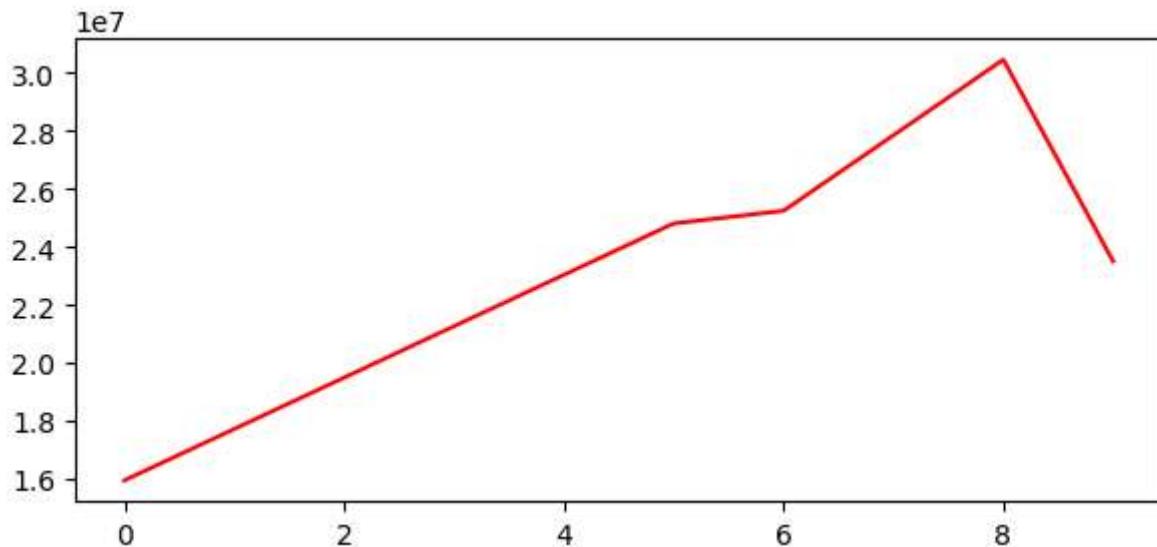
```
In [126... plt.plot(Salary[0])
```

```
Out[126... <matplotlib.lines.Line2D at 0x2b98f975790>]
```



```
In [127... plt.plot(Salary[0], c = 'red')
```

```
Out[127... <matplotlib.lines.Line2D at 0x2b98fb9d190>]
```



```
In [128... %matplotlib inline  
plt.rcParams['Figure.figsize'] = 10,6
```

```
-----  
AttributeError                                 Traceback (most recent call last)  
Cell In[128], line 2  
      1 get_ipython().run_line_magic('matplotlib', 'inline')  
----> 2 plt.rcParams['Figure.figsize'] = 10,6
```

```
AttributeError: module 'matplotlib.pyplot' has no attribute 'rcparams'
```

```
In [ ]: plt.plot(Salary[0], c = 'blue' , ls ='dashed')
```

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

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

In [ ]: plt.plot(Salary[0],c = 'red',ls=':')

In [ ]: plt.plot(Salary[0],c = 'red',ls='dotted')

In [ ]: plt.plot(Salary[0],c = 'red',ls='')

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

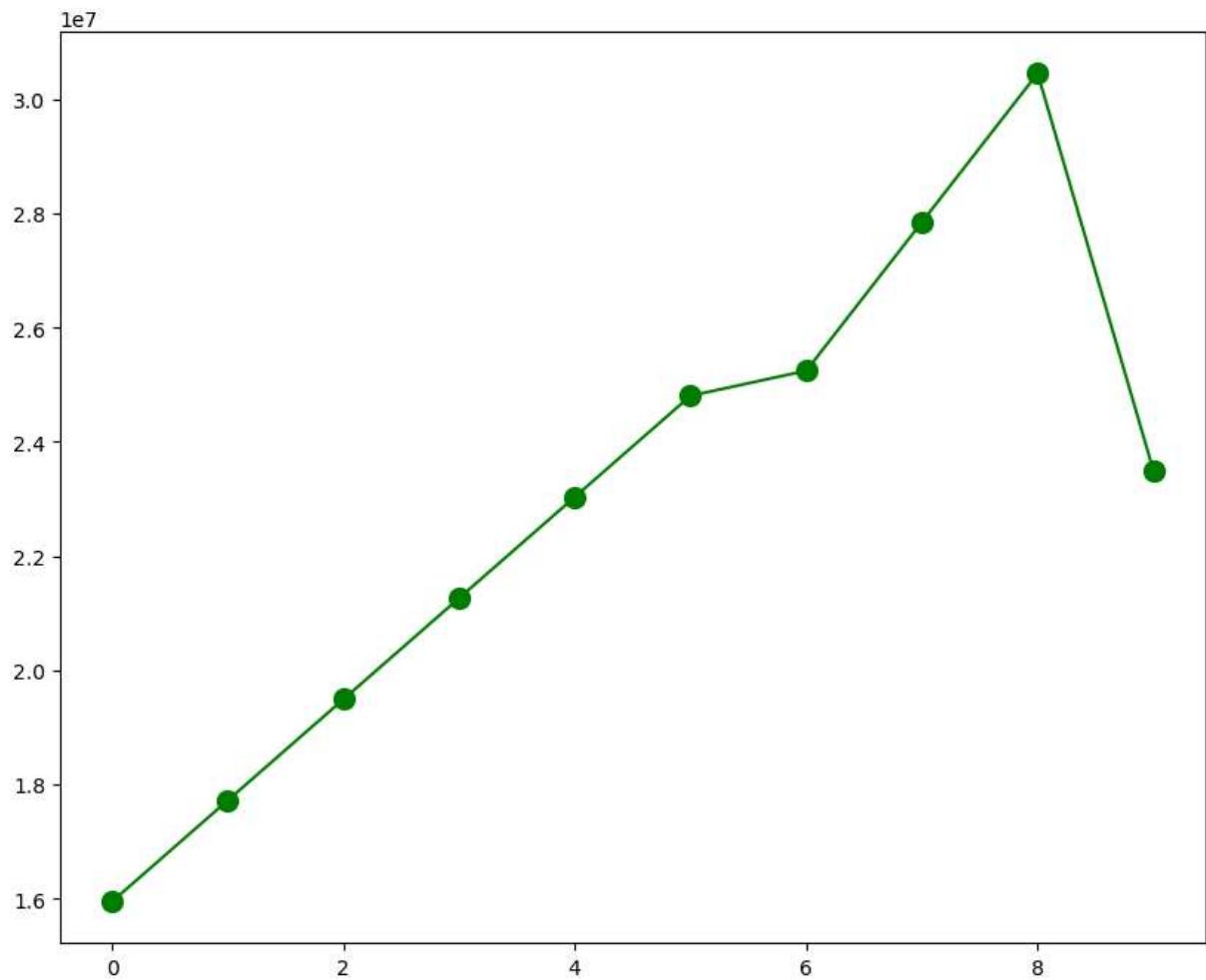
In [ ]: plt.plot(Salary[0], c='blue',ls='--')

In [ ]: plt.plot(Salary[0], c='Green',ls='--',marker='+')

In [ ]: plt.plot(Salary[0], c='Green',ls='--',marker='o',ms='5')

In [132...]: %matplotlib inline
            plt.rcParams['figure.figsize'] =10,8

In [134...]: plt.plot(Salary[0],c='Green',ls='-',marker='o',ms=10)
            plt.show()
```



```
In [135...]: list(range(0,10))
```

```
Out[135...]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

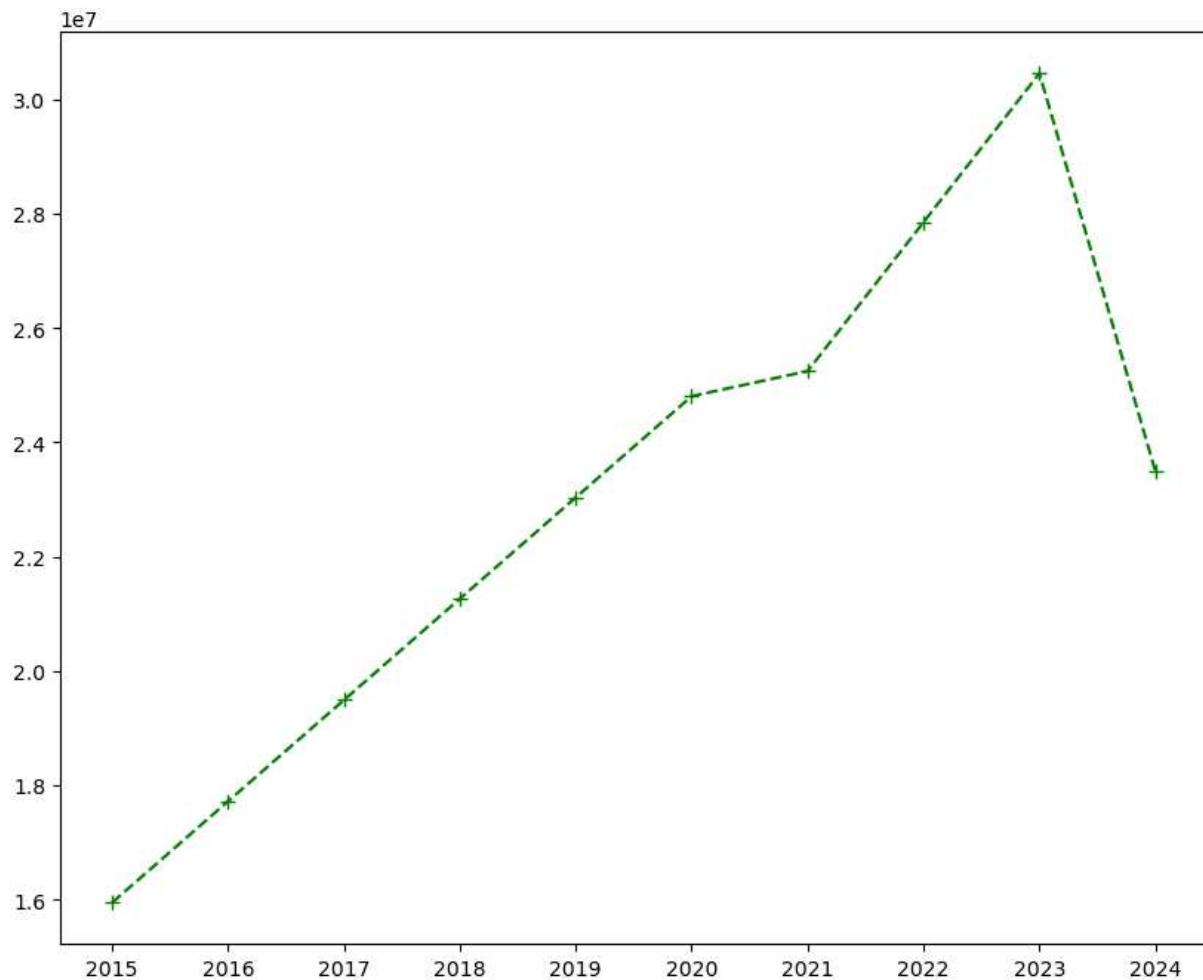
```
In [137...]: Sdict
```

```
Out[137...]: {'2015': 0,
 '2016': 1,
 '2017': 2,
 '2018': 3,
 '2019': 4,
 '2020': 5,
 '2021': 6,
 '2022': 7,
 '2023': 8,
 '2024': 9}
```

```
In [138...]: Pdict
```

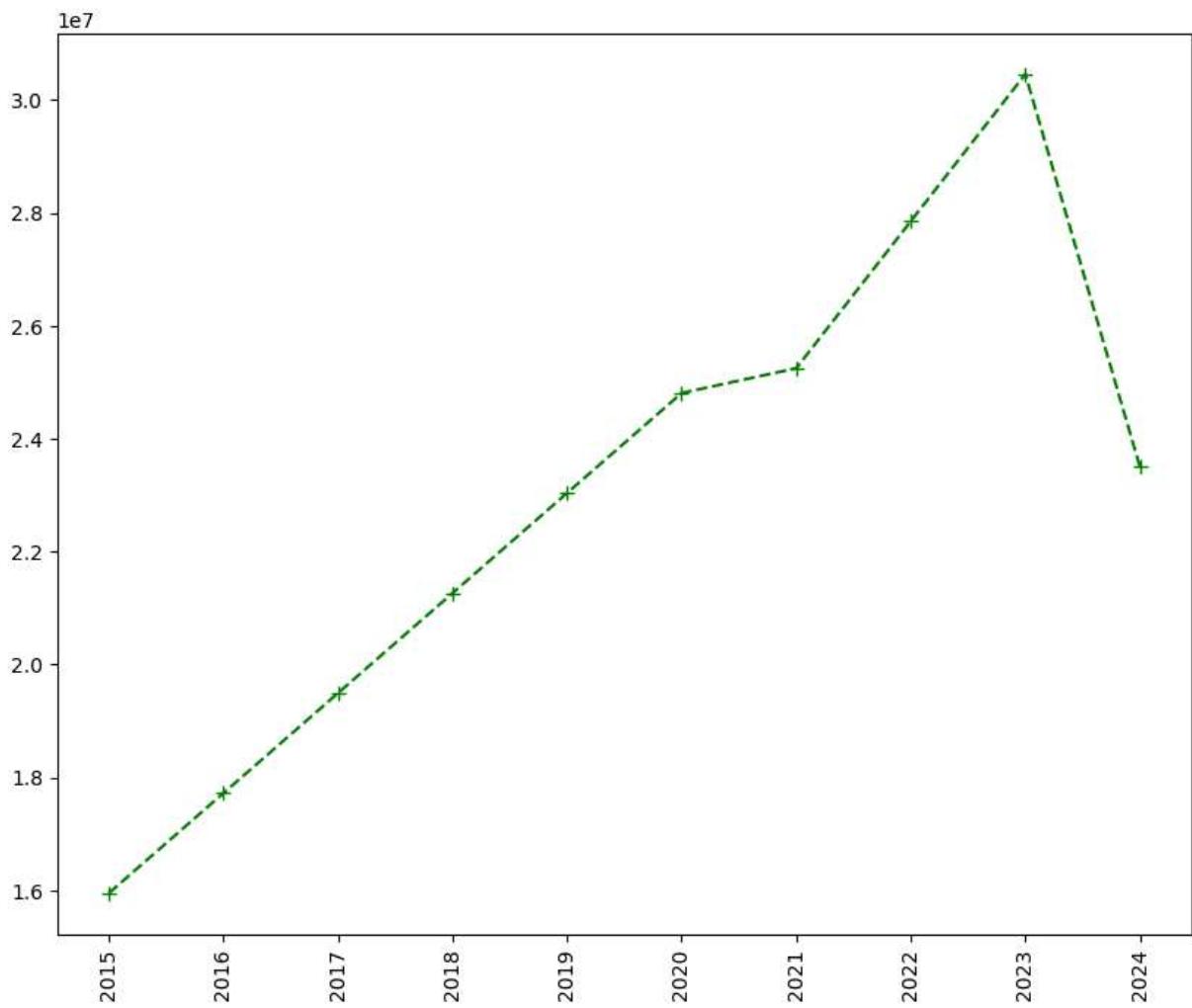
```
Out[138]: {'Sachin': 0,  
           'Rahul': 1,  
           'Smith': 2,  
           'Sami': 3,  
           'Pollard': 4,  
           'Morris': 5,  
           'Samson': 6,  
           'Dhoni': 7,  
           'Kohli': 8,  
           'Sky': 9}
```

```
In [143]: plt.plot(Salary[0], c = 'Green', ls = '--', marker = '+', ms = 7)  
plt.xticks(list(range(0,10)),Seasons)  
plt.show()
```



```
In [149]: # plt.plot(Salary[0], c = 'Green', ls = '--', marker = '+', ms = 7)  
# plt.yticks(List(range(0,10)),Players)  
# plt.show()
```

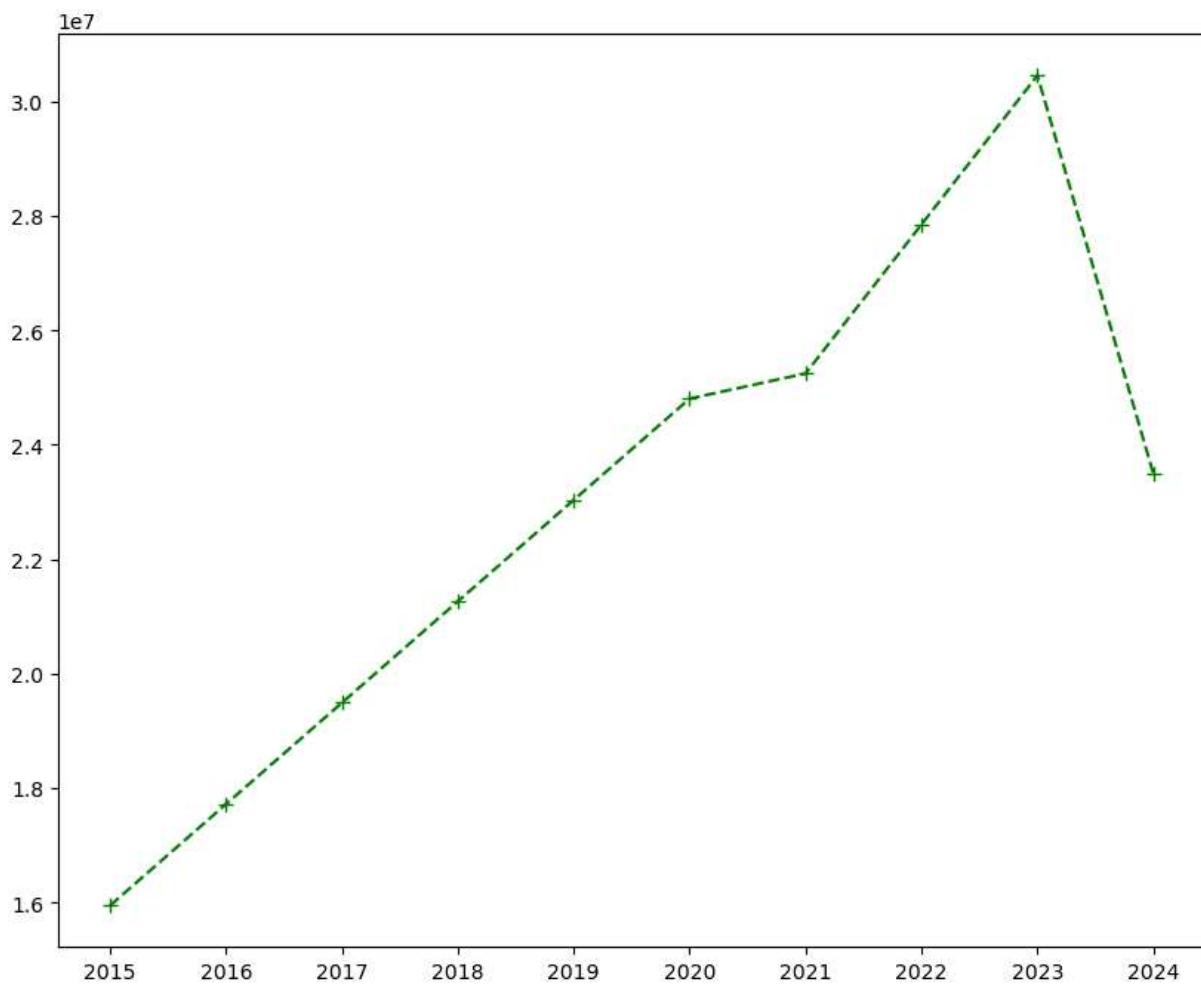
```
In [150]: plt.plot(Salary[0], c = 'Green', ls = '--', marker = '+', ms = 7)  
plt.xticks(list(range(0,10)),Seasons,rotation = 'vertical')  
plt.show()
```



```
In [153...]: Games
```

```
Out[153...]: 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 [156...]: plt.plot(Salary[0], c = 'Green', ls = '--', marker = '+', ms = 7, label = Players[0]  
plt.xticks(list(range(0,10)),Seasons,rotation = 'horizontal')  
plt.show()
```



```
In [157... Salary[0]
```

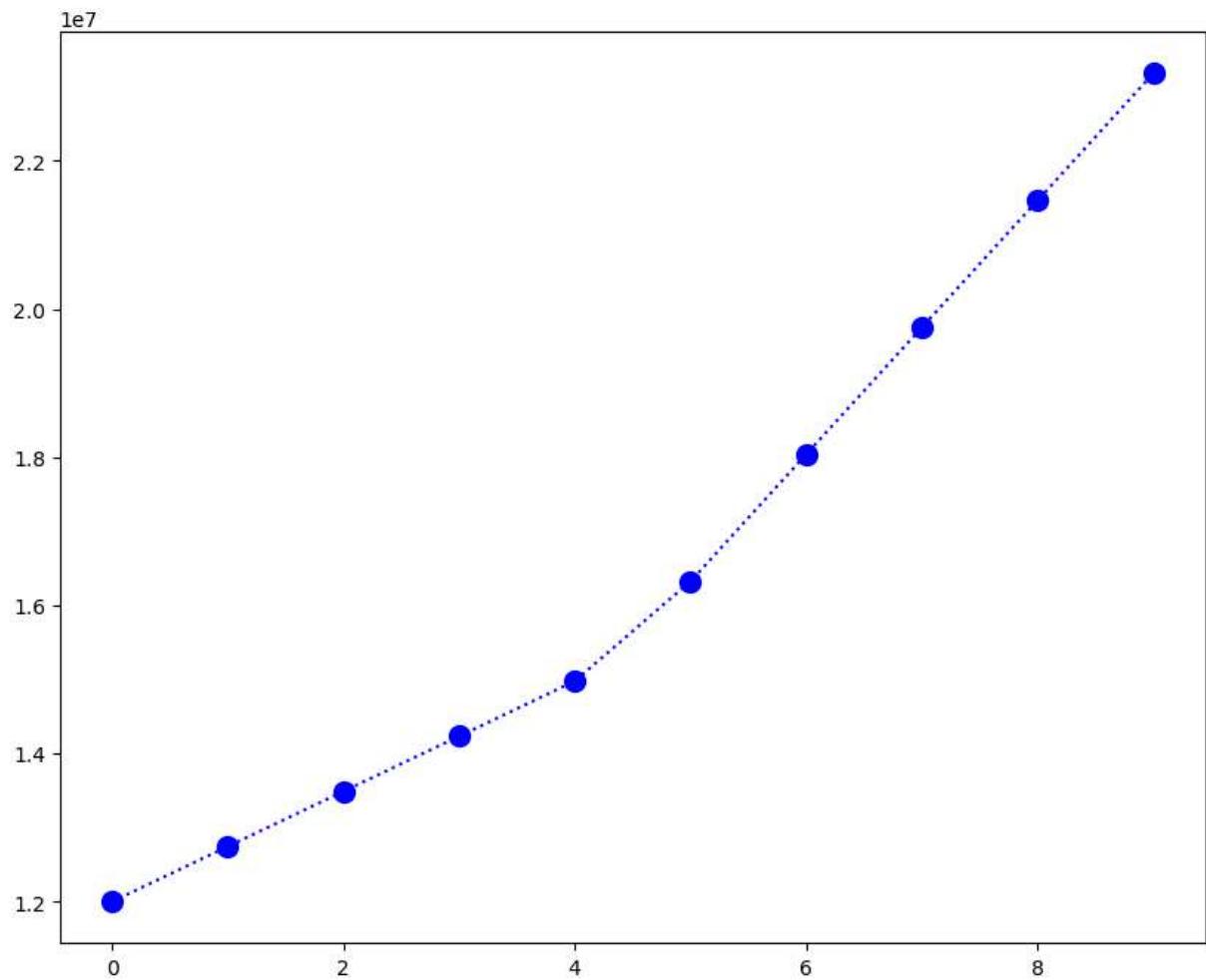
```
Out[157... array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
       25244493, 27849149, 30453805, 23500000])
```

```
In [158... Salary[1]
```

```
Out[158... array([12000000, 12744189, 13488377, 14232567, 14976754, 16324500,
       18038573, 19752645, 21466718, 23180790])
```

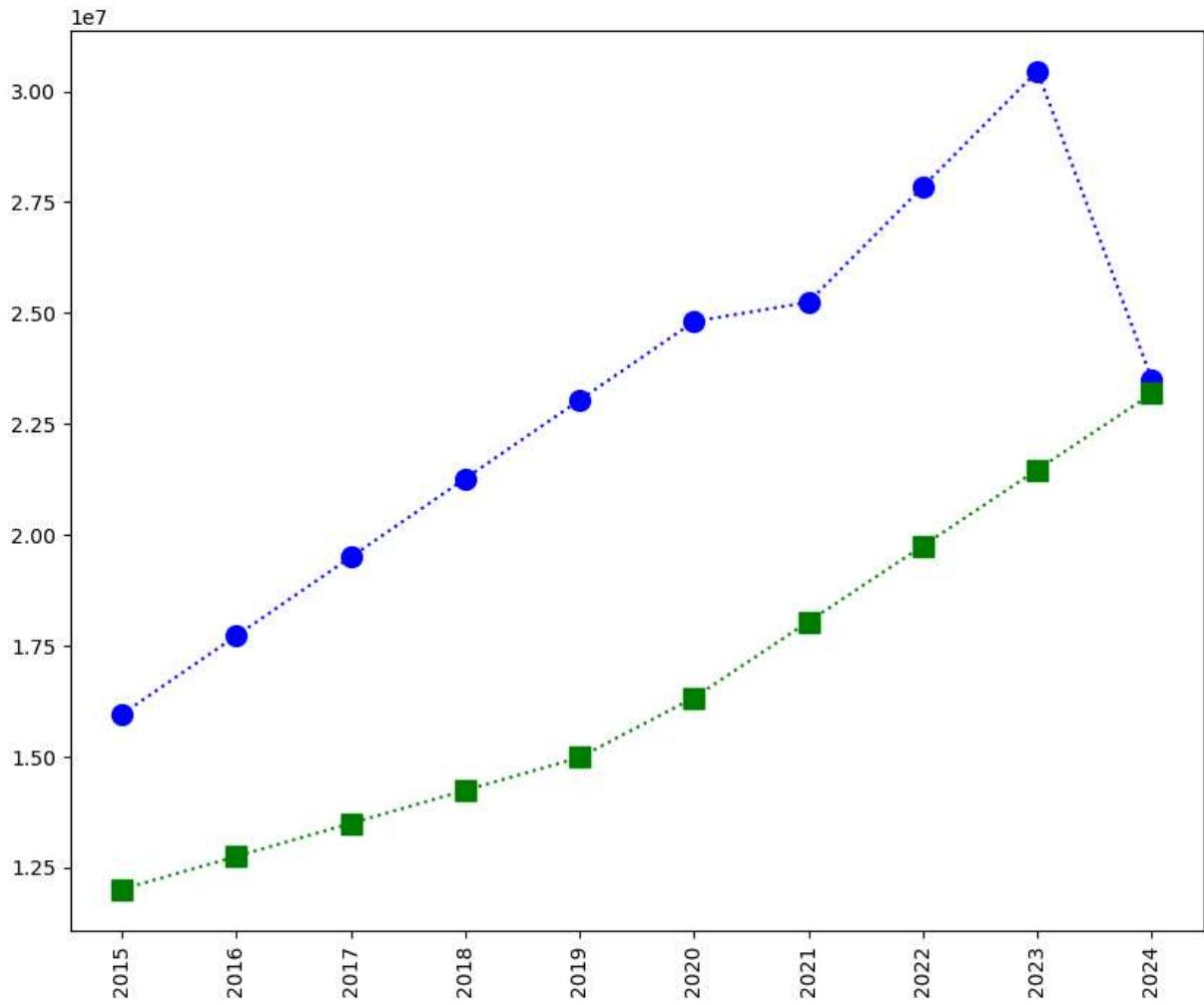
```
In [165... plt.plot(Salary[1], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[1])
```

```
Out[165... [<matplotlib.lines.Line2D at 0x2b990548dd0>]
```



```
In [170]: plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')

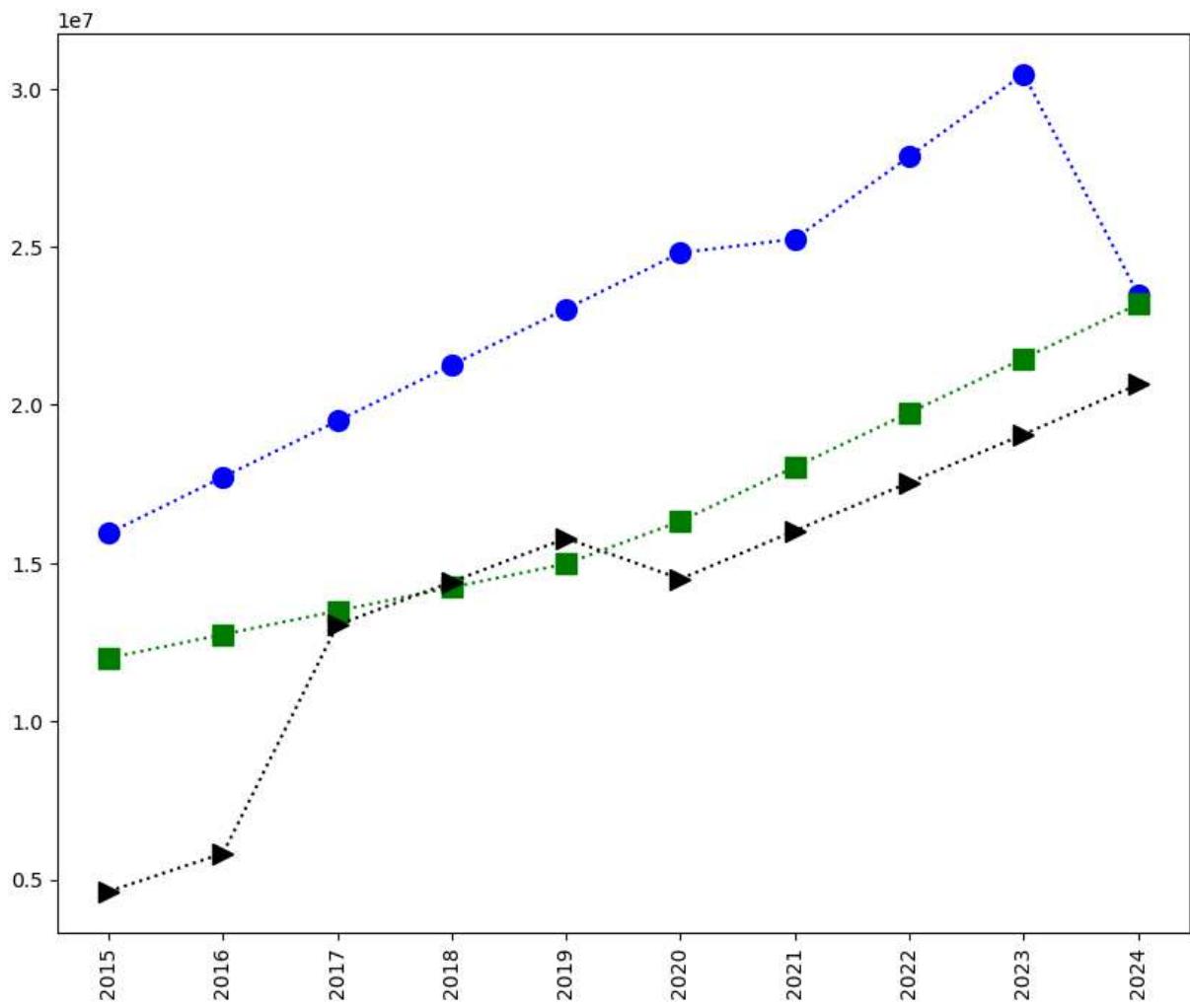
plt.show()
```



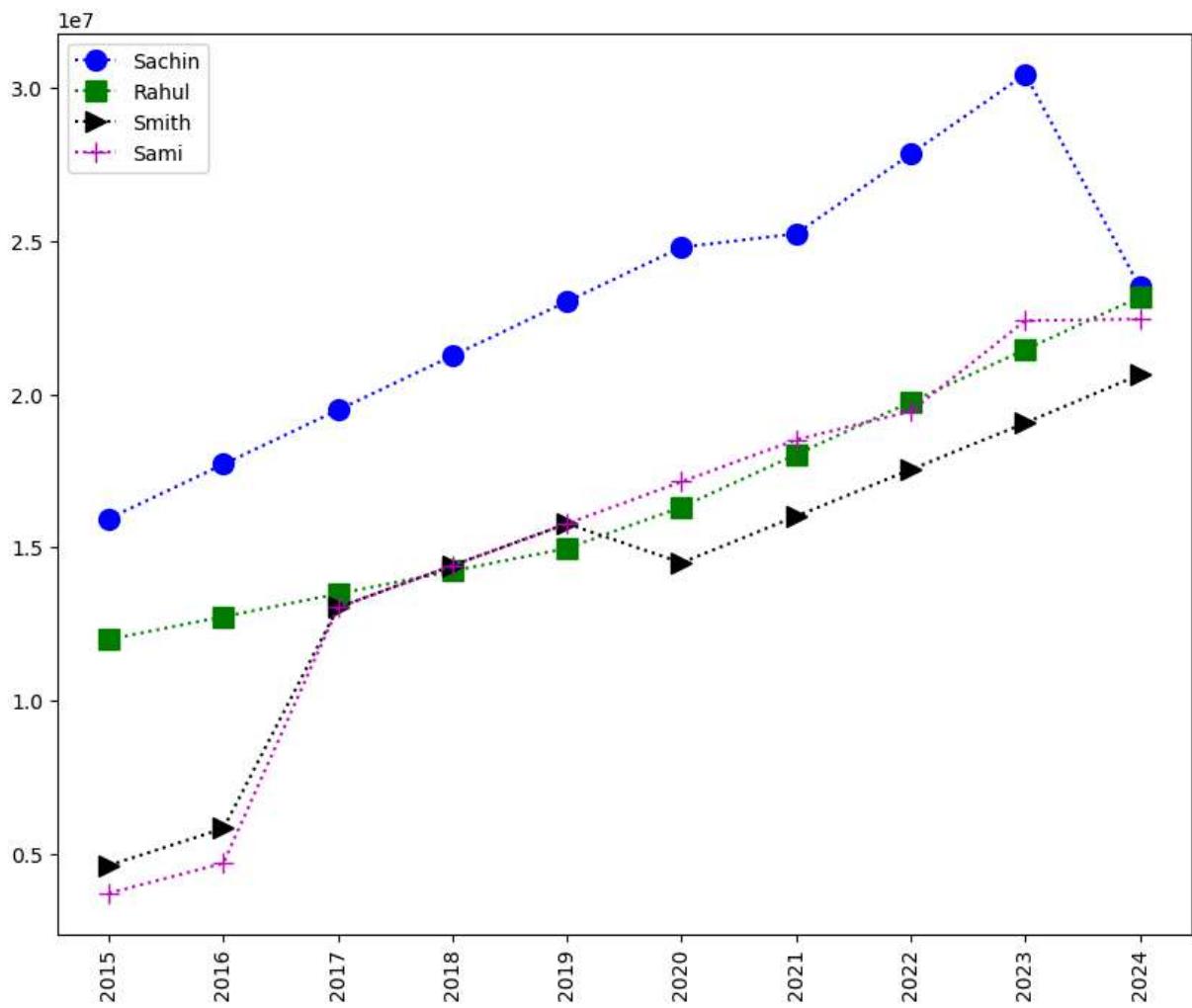
In [176]:

```
plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])
plt.plot(Salary[2], c= 'K',ls=':',marker= '>',ms = 10,label =Players[2])

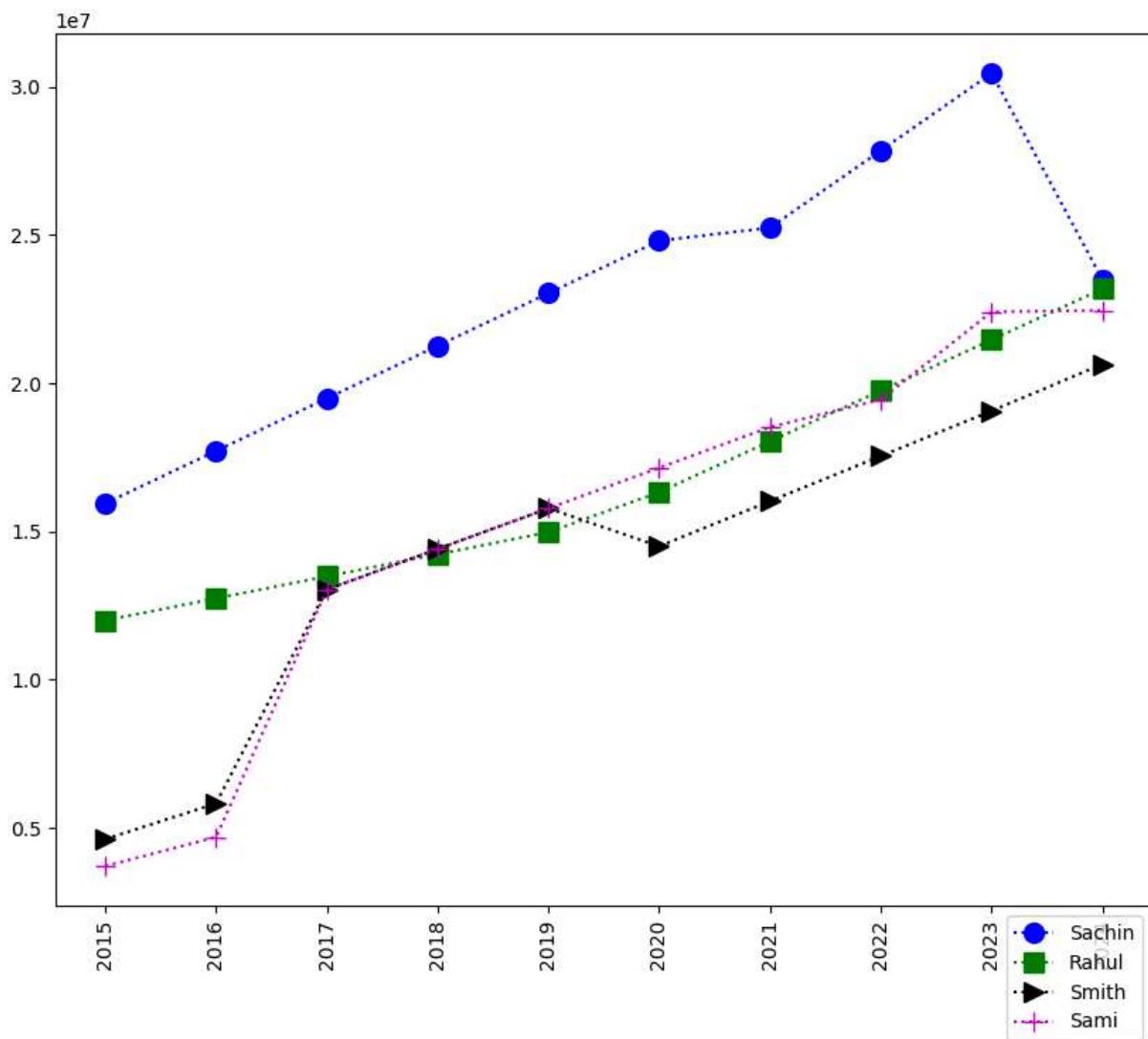
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
plt.show()
```



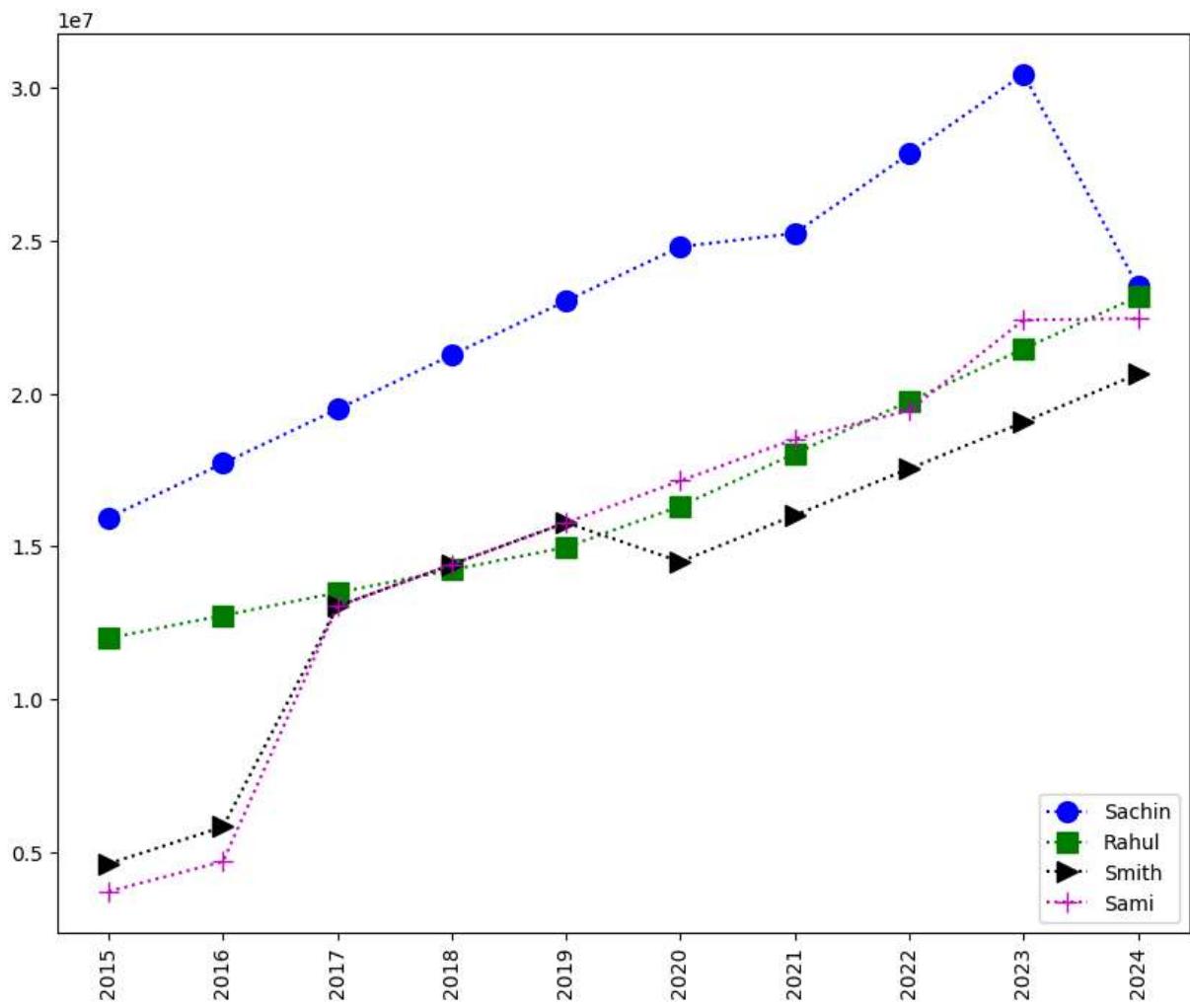
```
In [181]:  
plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])  
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])  
plt.plot(Salary[2], c= 'k',ls=':',marker= '>',ms = 10,label =Players[2])  
plt.plot(Salary[3], c= 'm',ls=':',marker= '+',ms = 10,label =Players[3])  
  
plt.legend()  
  
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')  
  
plt.show()
```



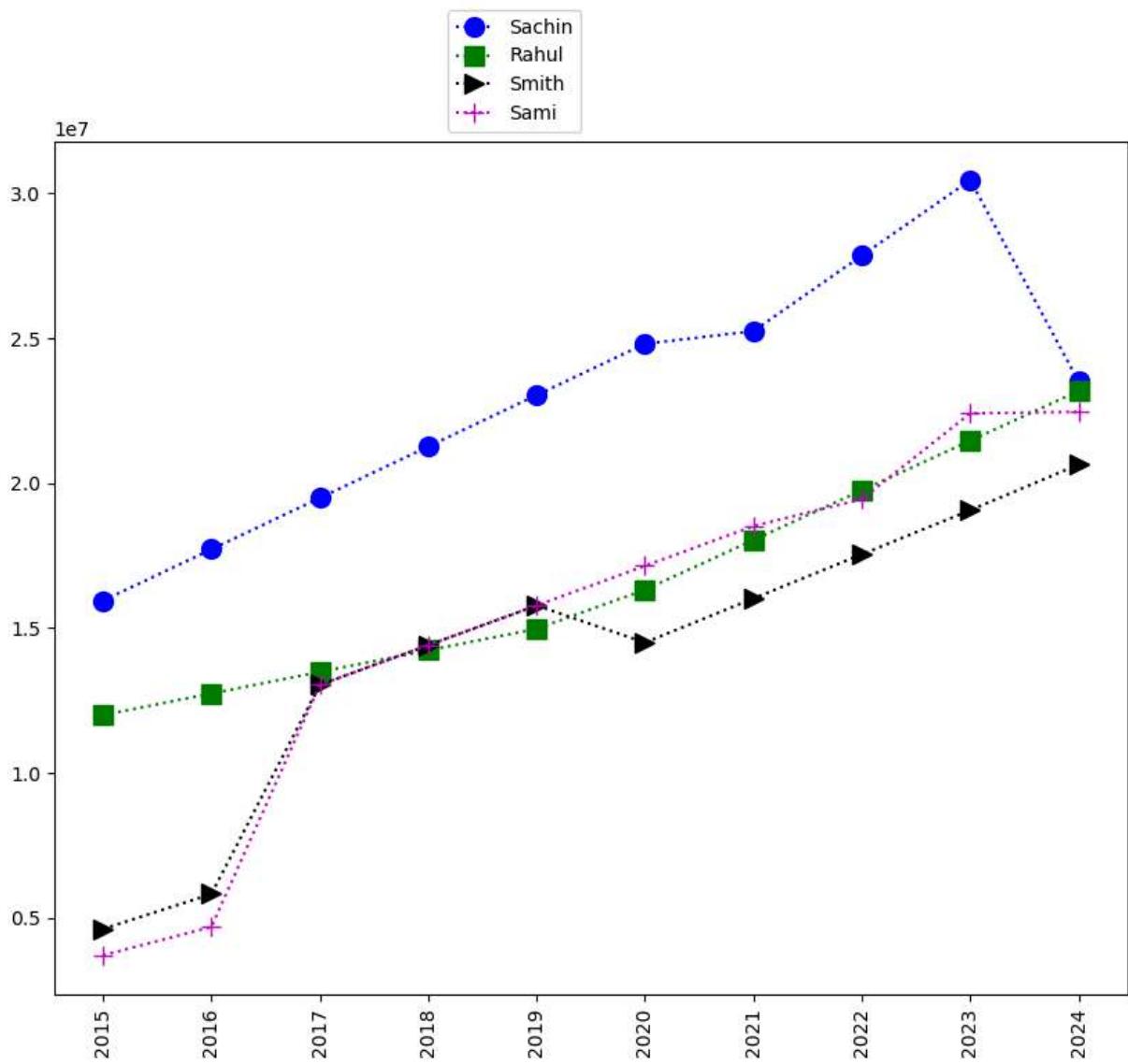
```
In [197]:  
plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])  
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])  
plt.plot(Salary[2], c= 'k',ls=':',marker= '>',ms = 10,label =Players[2])  
plt.plot(Salary[3], c= 'm',ls=':',marker= '+',ms = 10,label =Players[3])  
  
plt.legend(loc='upper right',bbox_to_anchor=(1,0))  
  
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')  
  
plt.show()
```



```
In [198]:  
plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])  
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])  
plt.plot(Salary[2], c= 'k',ls=':',marker= '>',ms = 10,label =Players[2])  
plt.plot(Salary[3], c= 'm',ls=':',marker= '+',ms = 10,label =Players[3])  
  
plt.legend(loc='lower right',bbox_to_anchor=(1,0))  
  
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')  
  
plt.show()
```



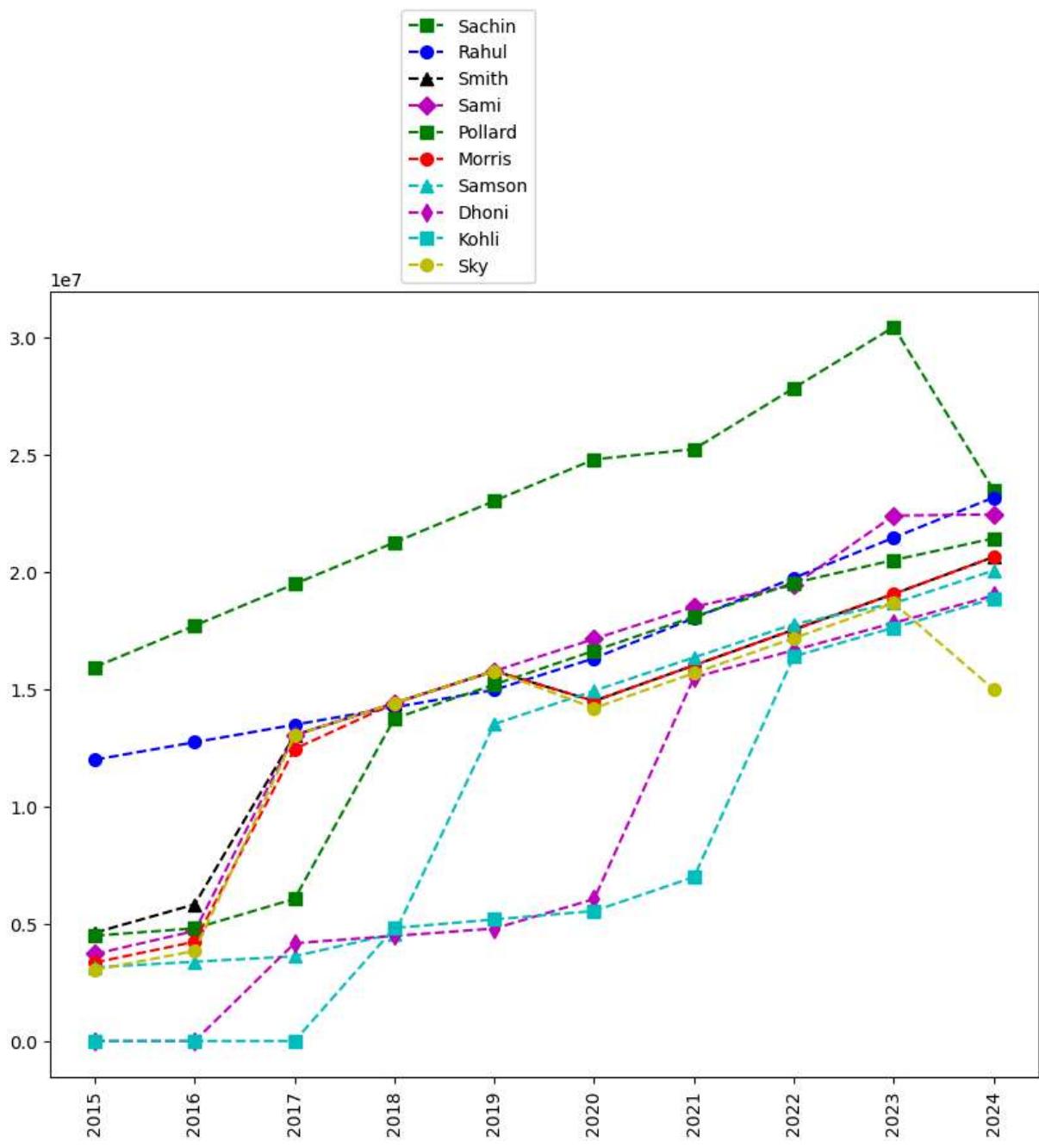
```
In [199]:  
plt.plot(Salary[0], c= 'Blue',ls=':',marker= 'o',ms = 10,label =Players[0])  
plt.plot(Salary[1], c= 'Green',ls=':',marker= 's',ms = 10,label =Players[1])  
plt.plot(Salary[2], c= 'k',ls=':',marker= '>',ms = 10,label =Players[2])  
plt.plot(Salary[3], c= 'm',ls=':',marker= '+',ms = 10,label =Players[3])  
  
plt.legend(loc='lower right',bbox_to_anchor=(0.5,1))  
  
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')  
  
plt.show()
```



```
In [203...]: 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='k', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='m', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='g', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='c', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='m', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='c', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='y', 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')

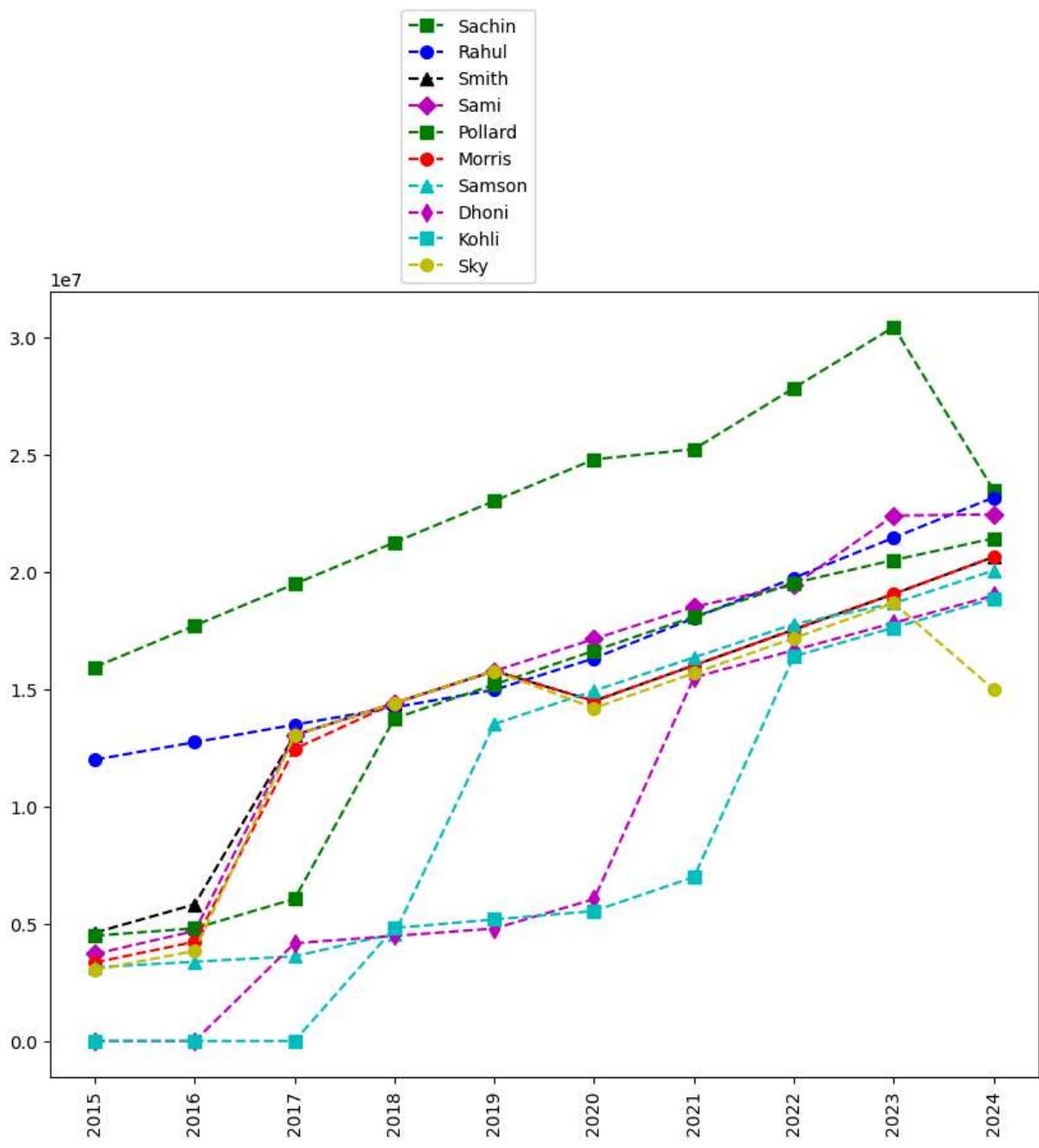
plt.show()
```



```
In [205]: 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='k', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='m', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='g', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='c', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='m', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='c', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='y', 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')

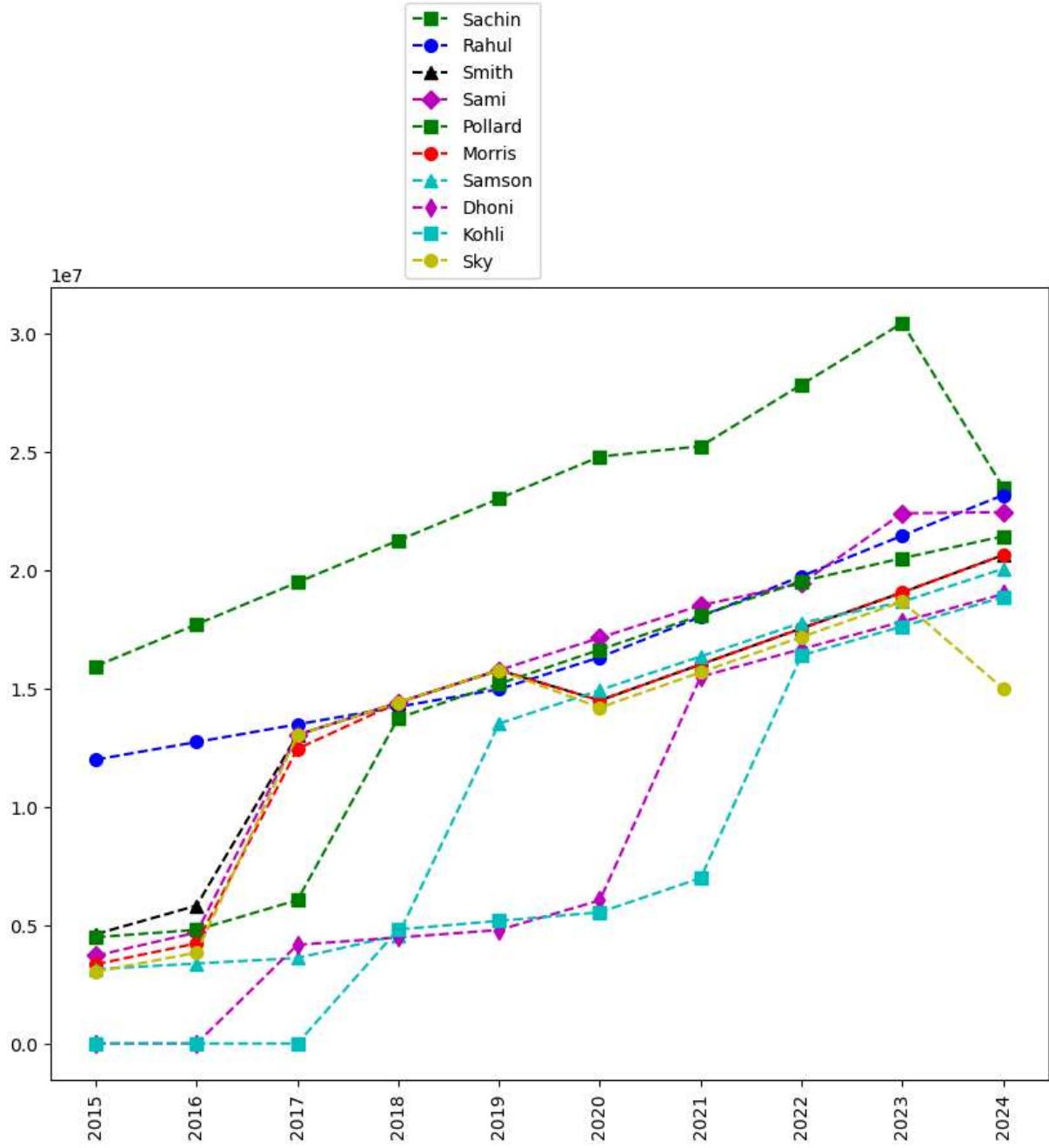
plt.show()
```



```
In [210]: 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='k', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='m', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='g', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='c', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='m', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='c', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='y', 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.yticks(List(range(0.0,10.0)), Players, rotation='horizontal')
```

```
plt.show()
```



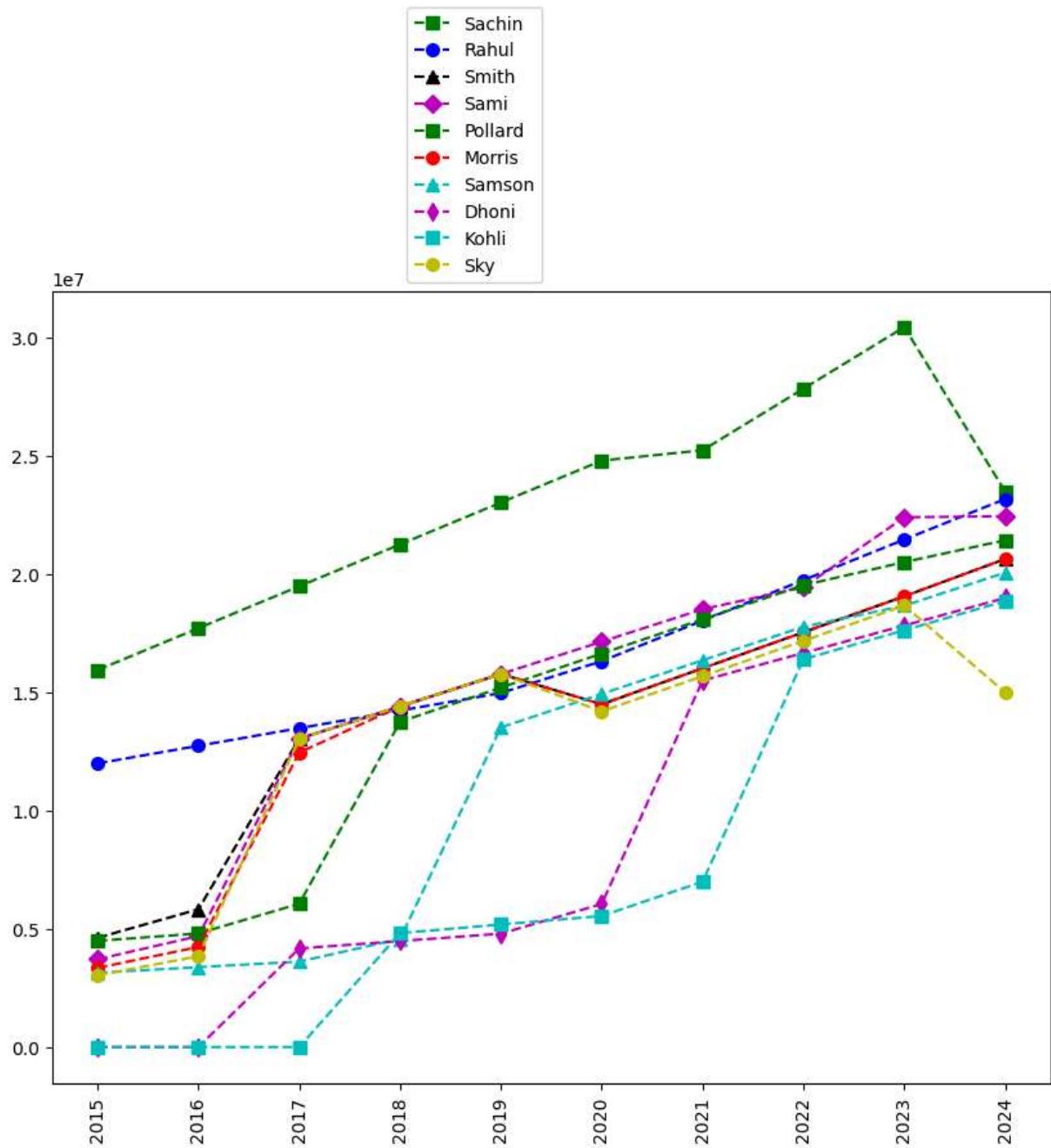
In [212]:

```
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='k', ls = '--', marker = '^', ms = 7, label = Players[2])
plt.plot(Salary[3], c='m', ls = '--', marker = 'D', ms = 7, label = Players[3])
plt.plot(Salary[4], c='g', ls = '--', marker = 's', ms = 7, label = Players[4])
plt.plot(Salary[5], c='Red', ls = '--', marker = 'o', ms = 7, label = Players[5])
plt.plot(Salary[6], c='c', ls = '--', marker = '^', ms = 7, label = Players[6])
plt.plot(Salary[7], c='m', ls = '--', marker = 'd', ms = 7, label = Players[7])
plt.plot(Salary[8], c='c', ls = '--', marker = 's', ms = 7, label = Players[8])
plt.plot(Salary[9], c='y', 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.yticks(list(range(0.0,10.0)), Players, rotation='horizontal')
```

```
plt.show()
```



In [ ]: