

```
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 = [15946875,17718750,19490625,21262500,23034375,24806250,25244493,26000000,27744189,29488377,31232567,33976754,35324500,37038573,38744493,40493160,42806720,4501274,47358000,49202590,516647180,538091770,55192000,57744189,59488377,61232567,63976754,65324500,67038573,68744493,70493160,72806720,7501274,77358000,79202590,816647180,838091770,85192000,87744189,89488377,91232567,93976754,95324500,97038573,98744493,100493160,102806720,10501274,107358000,109202590,1116647180,1138091770,115192000,117744189,119488377,121232567,123976754,125324500,127038573,128744493,130493160,132806720,13501274,137358000,139202590,1416647180,1438091770,145192000,147744189,149488377,151232567,153976754,155324500,157038573,158744493,160493160,162806720,16501274,167358000,169202590,1716647180,1738091770,175192000,177744189,179488377,181232567,183976754,185324500,187038573,188744493,190493160,192806720,19501274,197358000,199202590,2016647180,2038091770,205192000,207744189,209488377,211232567,213976754,215324500,217038573,218744493,220493160,222806720,22501274,227358000,229202590,2316647180,2338091770,235192000,237744189,239488377,241232567,243976754,245324500,247038573,248744493,250493160,252806720,25501274,257358000,259202590,2616647180,2638091770,265192000,267744189,269488377,271232567,273976754,275324500,277038573,278744493,280493160,282806720,28501274,287358000,289202590,2916647180,2938091770,295192000,297744189,299488377,201232567,203976754,205324500,207038573,208744493,210493160,212806720,21501274,217358000,219202590,2216647180,2238091770,225192000,227744189,229488377,231232567,233976754,235324500,237038573,238744493,240493160,242806720,24501274,247358000,249202590,2516647180,2538091770,255192000,257744189,259488377,261232567,263976754,265324500,267038573,268744493,270493160,272806720,27501274,277358000,279202590,2816647180,2838091770,285192000,287744189,289488377,291232567,293976754,295324500,297038573,298744493,290493160,292806720,29501274,297358000,299202590,3016647180,3038091770,305192000,307744189,309488377,311232567,313976754,315324500,317038573,318744493,320493160,322806720,32501274,327358000,329202590,3316647180,3338091770,335192000,337744189,339488377,341232567,343976754,345324500,347038573,348744493,350493160,352806720,35501274,357358000,359202590,3616647180,3638091770,365192000,367744189,369488377,371232567,373976754,375324500,377038573,378744493,380493160,382806720,38501274,387358000,389202590,3916647180,3938091770,395192000,397744189,399488377,301232567,303976754,305324500,307038573,308744493,310493160,312806720,31501274,317358000,319202590,3216647180,3238091770,325192000,327744189,329488377,331232567,333976754,335324500,337038573,338744493,340493160,342806720,34501274,347358000,349202590,3516647180,3538091770,355192000,357744189,359488377,361232567,363976754,365324500,367038573,368744493,370493160,372806720,37501274,377358000,379202590,3816647180,3838091770,385192000,387744189,389488377,391232567,393976754,395324500,397038573,398744493,390493160,392806720,39501274,397358000,399202590,4016647180,4038091770,405192000,407744189,409488377,411232567,413976754,415324500,417038573,418744493,420493160,422806720,42501274,427358000,429202590,4316647180,4338091770,435192000,437744189,439488377,441232567,443976754,445324500,447038573,448744493,450493160,452806720,45501274,457358000,459202590,4616647180,4638091770,465192000,467744189,469488377,471232567,473976754,475324500,477038573,478744493,470493160,472806720,47501274,477358000,479202590,4816647180,4838091770,485192000,487744189,489488377,491232567,493976754,495324500,497038573,498744493,490493160,492806720,49501274,497358000,499202590,5016647180,5038091770,505192000,507744189,509488377,511232567,513976754,515324500,517038573,518744493,520493160,522806720,52501274,527358000,529202590,5316647180,5338091770,535192000,537744189,539488377,541232567,543976754,545324500,547038573,548744493,550493160,552806720,55501274,557358000,559202590,5616647180,5638091770,565192000,567744189,569488377,571232567,573976754,575324500,577038573,578744493,570493160,572806720,57501274,577358000,579202590,5816647180,5838091770,585192000,587744189,589488377,591232567,593976754,595324500,597038573,598744493,590493160,592806720,59501274,597358000,599202590,6016647180,6038091770,605192000,607744189,609488377,611232567,613976754,615324500,617038573,618744493,620493160,622806720,62501274,627358000,629202590,6316647180,6338091770,635192000,637744189,639488377,641232567,643976754,645324500,647038573,648744493,650493160,652806720,65501274,657358000,659202590,6616647180,6638091770,665192000,667744189,669488377,671232567,673976754,675324500,677038573,678744493,670493160,672806720,67501274,677358000,679202590,6816647180,6838091770,685192000,687744189,689488377,691232567,693976754,695324500,697038573,698744493,690493160,692806720,69501274,697358000,699202590,7016647180,7038091770,705192000,707744189,709488377,711232567,713976754,715324500,717038573,718744493,720493160,722806720,72501274,727358000,729202590,7316647180,7338091770,735192000,737744189,739488377,741232567,743976754,745324500,747038573,748744493,750493160,752806720,75501274,757358000,759202590,7616647180,7638091770,765192000,767744189,769488377,771232567,773976754,775324500,777038573,778744493,770493160,772806720,77501274,777358000,779202590,7816647180,7838091770,785192000,787744189,789488377,791232567,793976754,795324500,797038573,798744493,790493160,792806720,79501274,797358000,799202590,8016647180,8038091770,805192000,807744189,809488377,811232567,813976754,815324500,817038573,818744493,810493160,812806720,81501274,817358000,819202590,8216647180,8238091770,825192000,827744189,829488377,831232567,833976754,835324500,837038573,838744493,830493160,832806720,83501274,837358000,839202590,8416647180,8438091770,845192000,847744189,849488377,851232567,853976754,855324500,857038573,858744493,850493160,852806720,85501274,857358000,859202590,8616647180,8638091770,865192000,867744189,869488377,871232567,873976754,875324500,877038573,878744493,870493160,872806720,87501274,877358000,879202590,8816647180,8838091770,885192000,887744189,889488377,891232567,893976754,895324500,897038573,898744493,890493160,892806720,89501274,897358000,899202590,9016647180,9038091770,905192000,907744189,909488377,911232567,913976754,915324500,917038573,918744493,910493160,912806720,91501274,917358000,919202590,9216647180,9238091770,925192000,927744189,929488377,931232567,933976754,935324500,937038573,938744493,930493160,932806720,93501274,937358000,939202590,9416647180,9438091770,945192000,947744189,949488377,951232567,953976754,955324500,957038573,958744493,950493160,952806720,95501274,957358000,959202590,9616647180,9638091770,965192000,967744189,969488377,971232567,973976754,975324500,977038573,978744493,970493160,972806720,97501274,977358000,979202590,9816647180,9838091770,985192000,987744189,989488377,991232567,993976754,995324500,997038573,998744493,990493160,992806720,99501274,997358000,999202590,10016647180,10038091770,1005192000,1007744189,1009488377,1011232567,1013976754,1015324500,1017038573,1018744493,1010493160,1012806720,101501274,1017358000,1019202590,10216647180,10238091770,1025192000,1027744189,1029488377,1031232567,1033976754,1035324500,1037038573,1038744493,1030493160,1032806720,103501274,1037358000,1039202590,10416647180,10438091770,1045192000,1047744189,1049488377,1051232567,1053976754,1055324500,1057038573,1058744493,1050493160,1052806720,105501274,1057358000,1059202590,10616647180,10638091770,1065192000,1067744189,1069488377,1071232567,1073976754,1075324500,1077038573,1078744493,1070493160,1072806720,107501274,1077358000,1079202590,10816647180,10838091770,1085192000,1087744189,1089488377,1091232567,1093976754,1095324500,1097038573,1098744493,1090493160,1092806720,109501274,1097358000,1099202590,11016647180,11038091770,1105192000,1107744189,1109488377,1111232567,1113976754,1115324500,1117038573,1118744493,1110493160,1112806720,111501274,1117358000,1119202590,11216647180,11238091770,1125192000,1127744189,1129488377,1131232567,1133976754,1135324500,1137038573,1138744493,1130493160,1132806720,113501274,1137358000,1139202590,11416647180,11438091770,1145192000,1147744189,1149488377,1151232567,1153976754,1155324500,1157038573,1158744493,1150493160,1152806720,115501274,1157358000,1159202590,11616647180,11638091770,1165192000,1167744189,1169488377,1171232567,1173976754,1175324500,1177038573,1178744493,1170493160,1172806720,117501274,1177358000,1179202590,11816647180,11838091770,1185192000,1187744189,1189488377,1191232567,1193976754,1195324500,1197038573,1198744493,1190493160,1192806720,119501274,1197358000,1199202590,12016647180,12038091770,1205192000,1207744189,1209488377,1211232567,1213976754,1215324500,1217038573,1218744493,1210493160,1212806720,121501274,1217358000,1219202590,12216647180,12238091770,1225192000,1227744189,1229488377,1231232567,1233976754,1235324500,1237038573,1238744493,1230493160,1232806720,123501274,1237358000,1239202590,12416647180,12438091770,1245192000,1247744189,1249488377,1251232567,1253976754,1255324500,1257038573,1258744493,1250493160,1252806720,125501274,1257358000,1259202590,12616647180,12638091770,1265192000,1267744189,1269488377,1271232567,1273976754,1275324500,1277038573,1278744493,1270493160,1272806720,127501274,1277358000,1279202590,12816647180,12838091770,1285192000,1287744189,1289488377,1291232567,1293976754,1295324500,1297038573,1298744493,1290493160,1292806720,129501274,1297358000,1299202590,13016647180,13038091770,1305192000,1307744189,1309488377,1311232567,1313976754,1315324500,1317038573,1318744493,1310493160,1312806720,131501274,1317358000,1319202590,13216647180,13238091770,1325192000,1327744189,1329488377,1331232567,1333976754,1335324500,1337038573,1338744493,1330493160,1332806720,133501274,1337358000,1339202590,13416647180,13438091770,1345192000,1347744189,1349488377,1351232567,1353976754,1355324500,1357038573,1358744493,1350493160,1352806720,135501274,1357358000,1359202590,13616647180,13638091770,1365192000,1367744189,1369488377,1371232567,1373976754,1375324500,1377038573,1378744493,1370493160,1372806720,137501274,1377358000,1379202590,13816647180,13838091770,1385192000,1387744189,1389488377,1391232567,1393976754,1395324500,1397038573,1398744493,1390493160,1392806720,139501274,1397358000,1399202590,14016647180,14038091770,1405192000,1407744189,1409488377,1411232567,1413976754,1415324500,1417038573,1418744493,1410493160,1412806720,141501274,1417358000,1419202590,14216647180,14238091770,1425192000,1427744189,1429488377,1431232567,1433976754,1435324500,1437038573,1438744493,1430493160,1432806720,143501274,1437358000,1439202590,14416647180,14438091770,1445192000,1447744189,1449488377,1451232567,1453976754,1455324500,1457038573,1458744493,1450493160,1452806720,145501274,1457358000,1459202590,14616647180,14638091770,1465192000,1467744189,1469488377,1471232567,1473976754,1475324500,1477038573,1478744493,1470493160,1472806720,147501274,1477358000,1479202590,14816647180,14838091770,1485192000,1487744189,1489488377,1491232567,1493976754,1495324500,1497038573,1498744493,1490493160,1492806720,149501274,1497358000,1499202590,15016647180,15038091770,1505192000,1507744189,1509488377,1511232567,1513976754,1515324500,1517038573,1518744493,1510493160,1512806720,151501274,1517358000,1519202590,15216647180,15238091770,1525192000,1527744189,1529488377,1531232567,1533976754,1535324500,1537038573,1538744493,1530493160,1532806720,153501274,1537358000,1539202590,15416647180,15438091770,1545192000,1547744189,1549488377,1551232567,1553976754,1555324500,1557038573,1558744493,1550493160,1552806720,155501274,1557358000,1559202590,15616647180,15638091770,1565192000,1567744189,1569488377,1571232567,1573976754,1575324500,1577038573,1578744493,1570493160,1572806720,157501274,1577358000,1579202590,15816647180,15838091770,1585192000,1587744189,1589488377,1591232567,1593976754,1595324500,1597038573,1598744493,1590493160,1592806720,159501274,1597358000,1599202590,16016647180,16038091770,1605192000,1607744189,1609488377,1611232567,1613976754,1615324500,1617038573,1618744493,1610493160,1612806720,161501274,1617358000,1619202590,16216647180,
```

In [6]: Salary

```
Out[6]: 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 [7]: Games

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

```
C:\Users\Lenovo\AppData\Local\Temp\ipykernel_4856\3709746658.py:1: RuntimeWarning: divide by zero encountered in divide
    Salary/Games
```

```
Out[8]: 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.        ,      0.        ,
  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 [9]: `np.round(Salary/Games)`

```
C:\Users\Lenovo\AppData\Local\Temp\ipykernel_4856\3232172828.py:1: RuntimeWarning
g: 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 [11]: import warnings
warnings.filterwarnings('ignore')
```

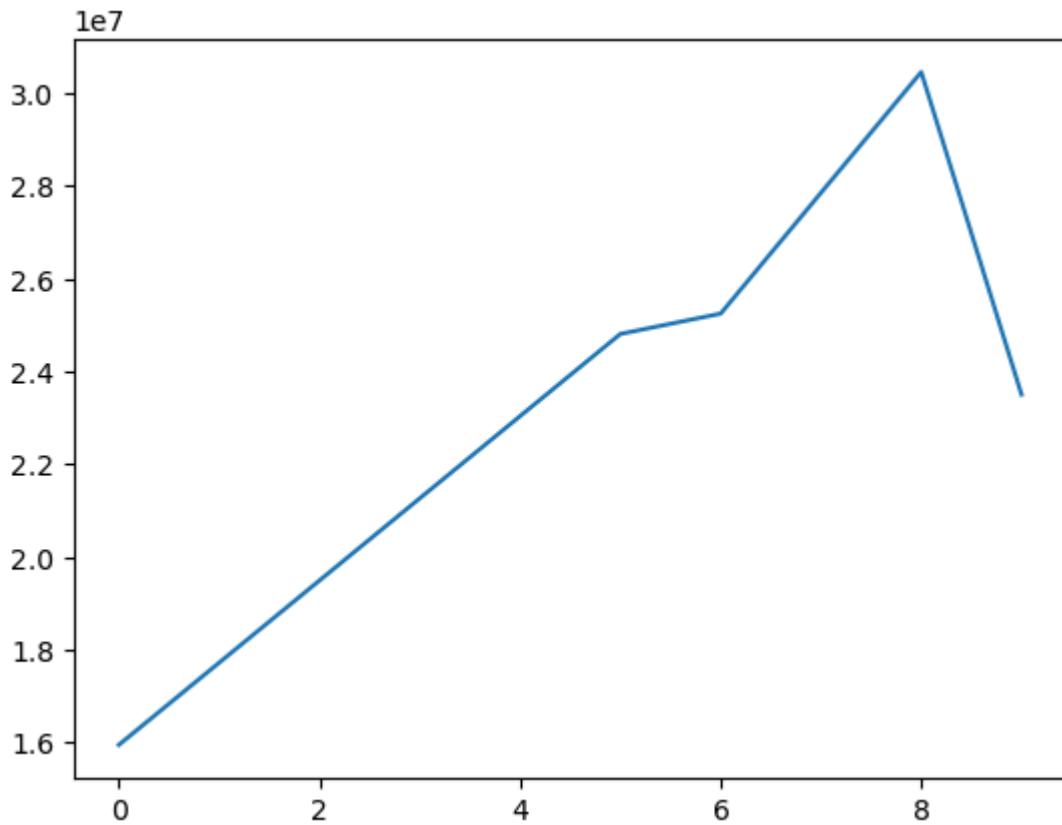
```
In [6]: import matplotlib.pyplot as plt
```

```
In [16]: Salary[0]
```

```
Out[16]: array([15946875, 17718750, 19490625, 21262500, 23034375, 24806250,
 25244493, 27849149, 30453805, 23500000])
```

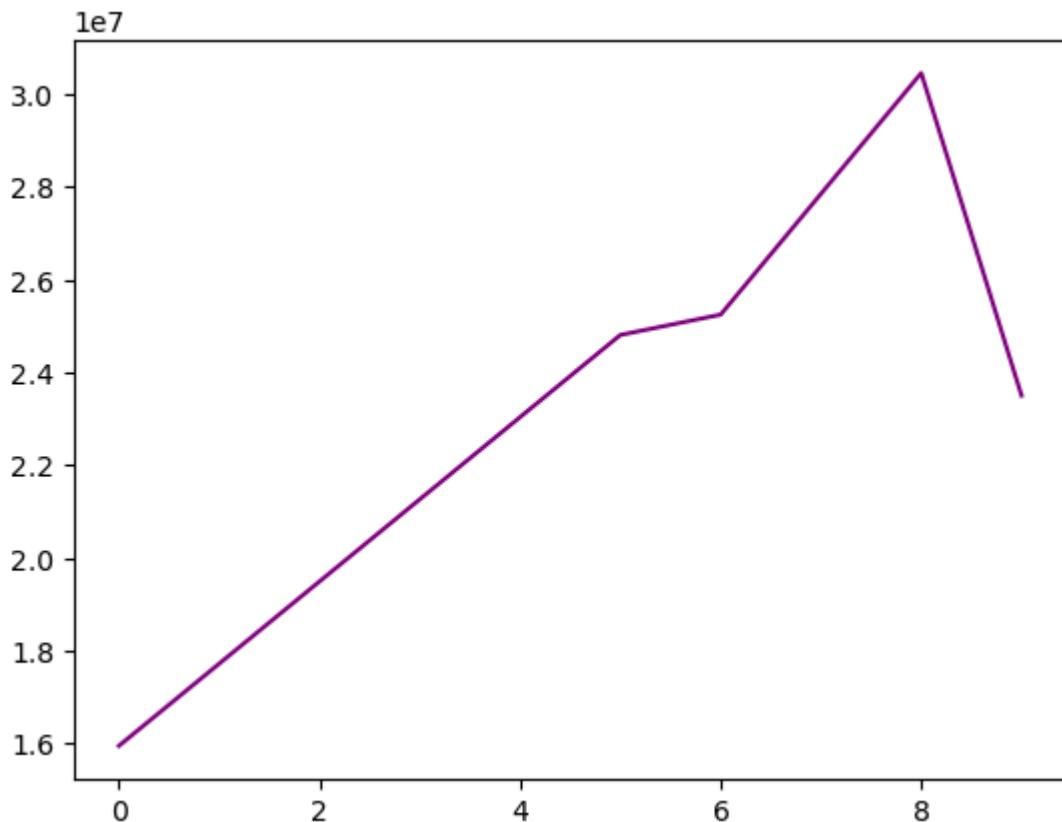
```
In [17]: plt.plot(Salary[0])
```

```
Out[17]: [
```



```
In [18]: plt.plot(Salary[0], color='purple')
```

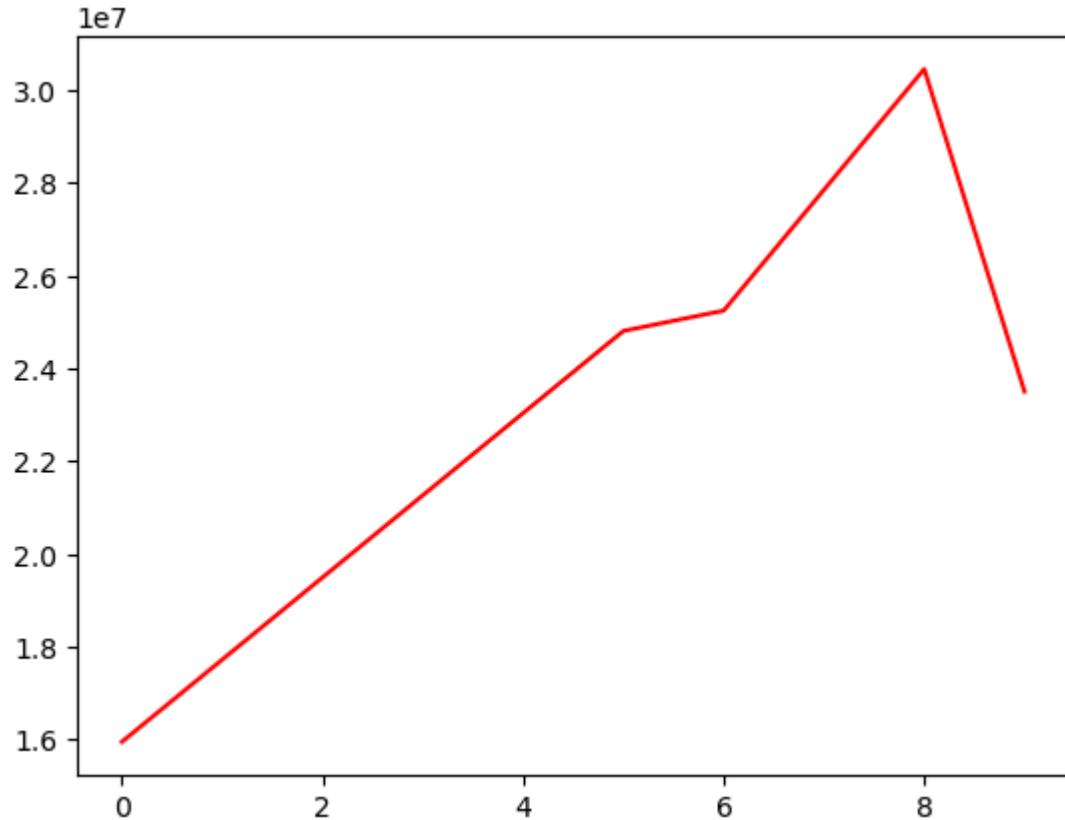
```
Out[18]: [
```



```
In [ ]:
```

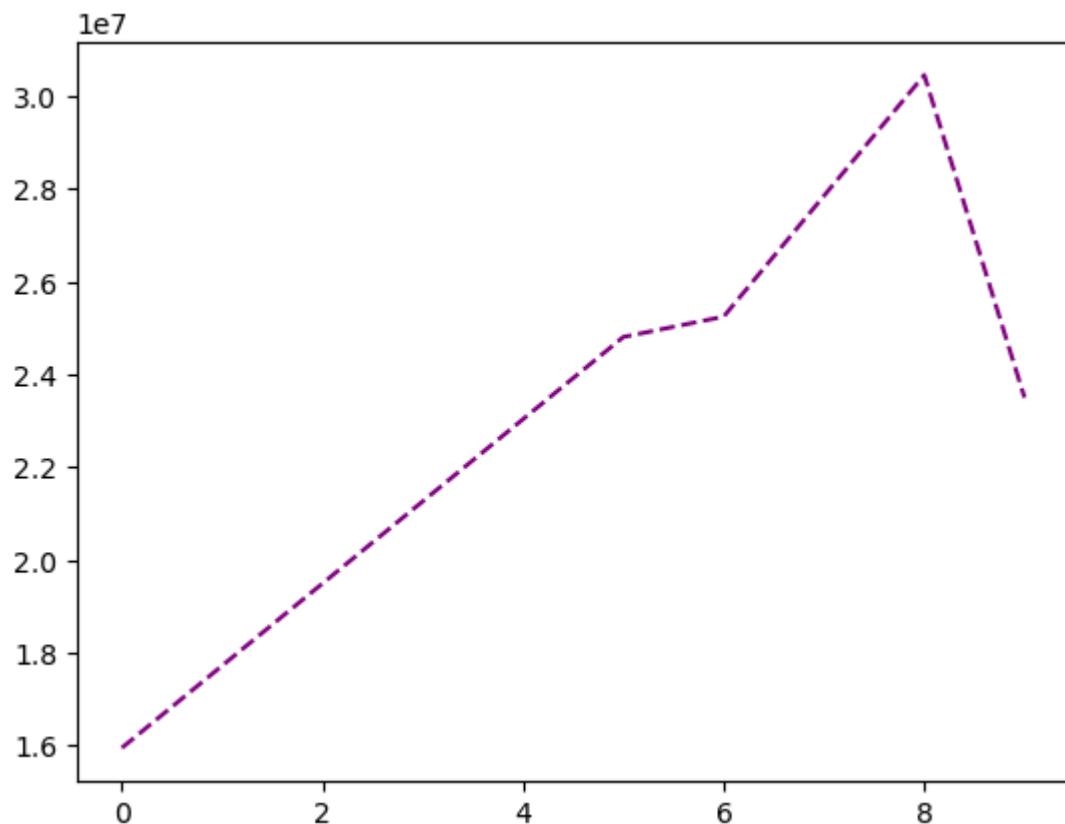
```
In [19]: plt.plot(Salary[0], color='red')
```

```
Out[19]: <matplotlib.lines.Line2D at 0x1d1edad2210>
```

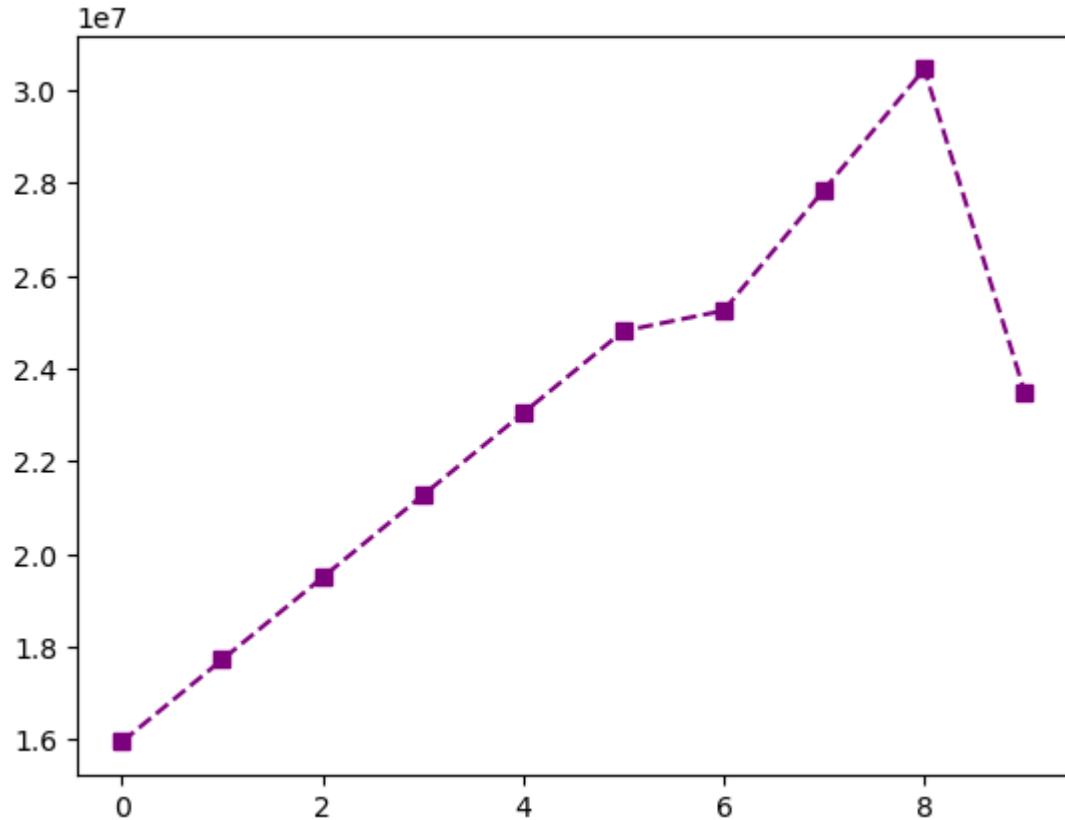
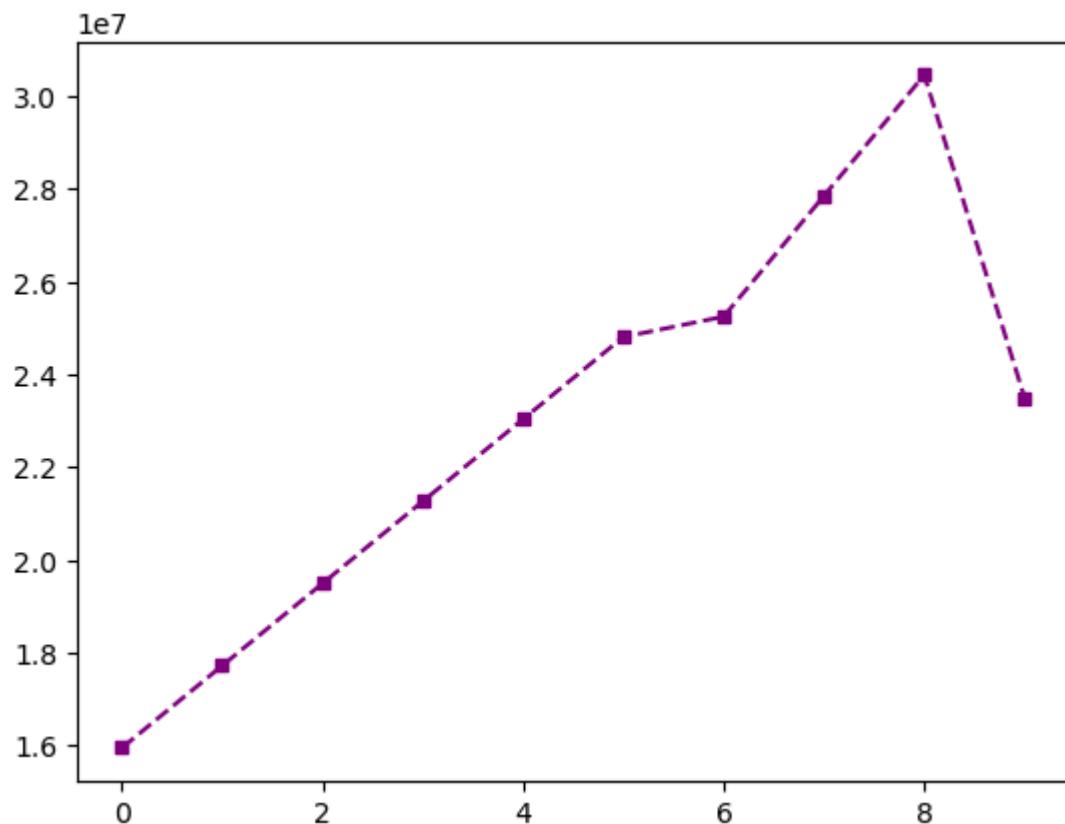


```
In [20]: plt.plot(Salary[0], color='purple', ls='--')
```

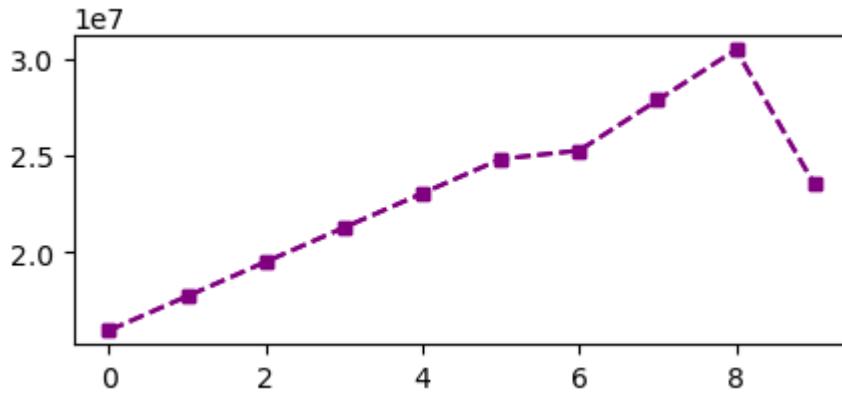
```
Out[20]: <matplotlib.lines.Line2D at 0x1d1edb607d0>
```



```
In [21]: plt.plot(Salary[0], color='purple', ls='--', marker='s')
```

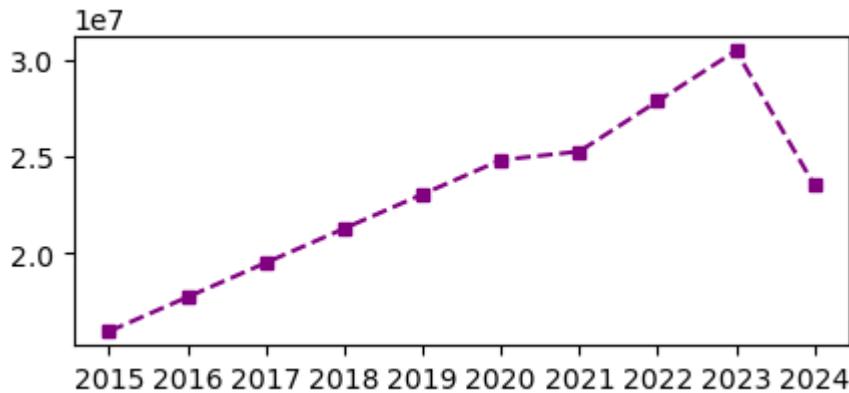
Out[21]: [`<matplotlib.lines.Line2D at 0x1d1edb2d50>`]In [24]: `plt.plot(Salary[0], color='purple', ls='--', marker='s', ms=5)`Out[24]: [`<matplotlib.lines.Line2D at 0x1d1edd1de50>`]In [8]: `%matplotlib inline`
`plt.rcParams['figure.figsize'] = 5, 2`

```
plt.plot(Salary[0], color='purple', ls='--', marker='s', ms=5)
plt.show()
```



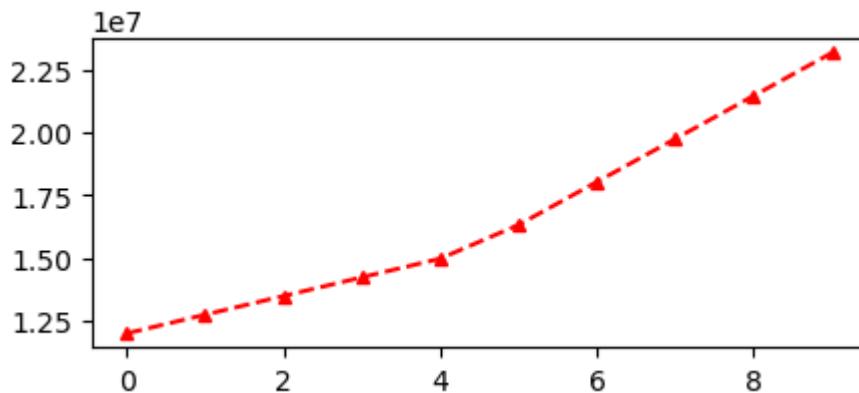
In [32]:

```
plt.plot(Salary[0], color='purple', ls='--', marker='s', ms=5)
plt.xticks(list(range(0,10)),Seasons)
plt.show()
```



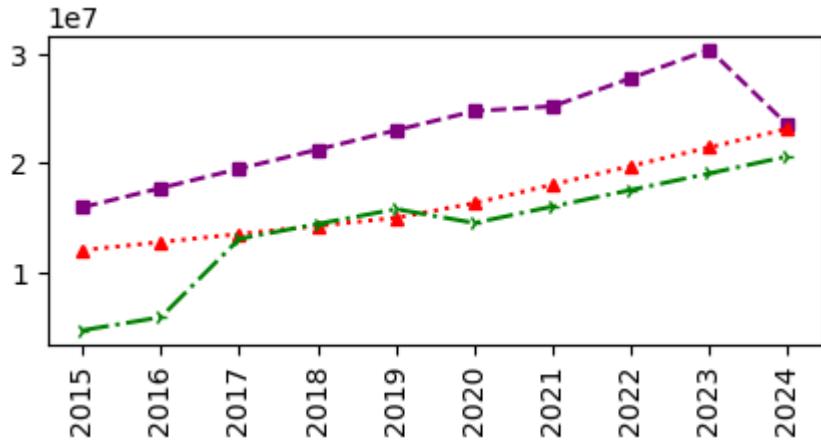
In [33]:

```
plt.plot(Salary[1], color='red', ls='--', marker='^', ms=5)
plt.show()
```

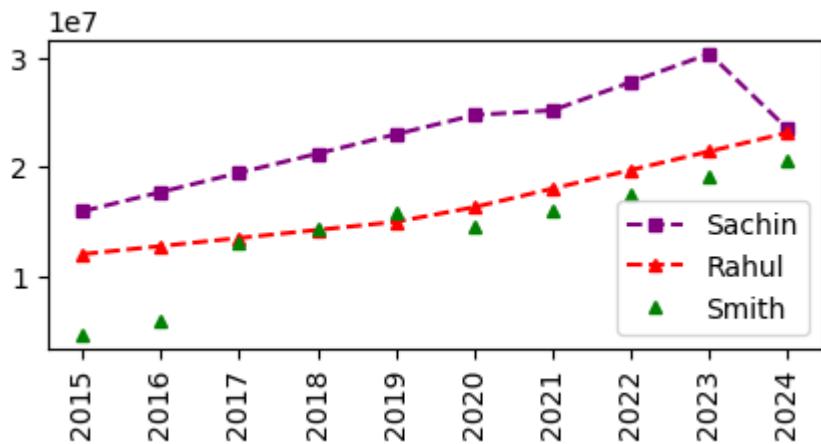


In [9]:

```
plt.plot(Salary[0], color='purple', ls='--', marker='s', ms=5)
plt.plot(Salary[1], color='red', ls=':', marker='^', ms=5)
plt.plot(Salary[2], color='green', ls='-.', marker='4', ms=5)
plt.xticks(list(range(0,10)),Seasons, rotation='vertical')
plt.show()
```



```
In [10]: plt.plot(Salary[0], color='purple', ls='--', marker='s', ms=5, label=Players[0])
plt.plot(Salary[1], color='red', ls='--', marker='^', ms=5, label=Players[1])
plt.plot(Salary[2], color='green', ls='--', marker='^', ms=5, label=Players[2])
plt.legend()
plt.xticks(list(range(0,10)),Seasons, rotation='vertical')
plt.show()
```



```
In [ ]:
```