In [2]:
```
import numpy as np

#Seasons
Seasons = ["2010","2011","2012","2013","2014","2015","2016","2017","2018","20
Sdict = {"2010":0,"2011":1,"2012":2,"2013":3,"2014":4,"2015":5,"2016":6,"2017

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

#Salaries
Sachin_Salary = [15946875,17718750,19490625,21262500,23034375,24806250,252444
Rahul_Salary = [12000000,12744189,13488377,14232567,14976754,16324500,1803857
Smith_Salary = [4621800,5828090,13041250,14410581,15779912,14500000,16022500,
Sami_Salary = [3713640,4694041,13041250,14410581,15779912,17149243,18518574,1
Pollard_Salary = [4493160,4806720,6061274,13758000,15202590,16647180,18091770
Morris_Salary = [3348000,4235220,12455000,14410581,15779912,14500000,16022500
Samson_Salary = [3144240,3380160,3615960,4574189,13520500,14940153,16359805,1
Dhoni_Salary = [0,0,4171200,4484040,4796880,6053663,15506632,16669630,1783262
Kohli_Salary = [0,0,0,4822800,5184480,5546160,6993708,16402500,17632688,18862
Sky_Salary = [3031920,3841443,13041250,14410581,15779912,14200000,15691000,17
#Matrix
Salary = np.array([Sachin_Salary, Rahul_Salary, Smith_Salary, Sami_Salary, Po

#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, Sa

#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, M
```

In [4]:
```
mydata = np.arange(0,20)
```

In [5]:
```
print(mydata)
```

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

In [6]:
```
np.reshape(mydata,(4,5))
```

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

In [7]:
```
MATR1 = np.reshape(mydata, (5,4), order = 'c')
```

In [8]:
```
MATR2 = np.reshape(mydata, (5,4), order = 'F')
```

In [9]:
```
MATR2
```

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

In [10]:
```
MATR3 = np.reshape(mydata, (5,4), order = 'A')
```

In [11]:
```
MATR3
```

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

In [12]:
```
Pdict['Sachin']
```

Out[12]:
```
0
```

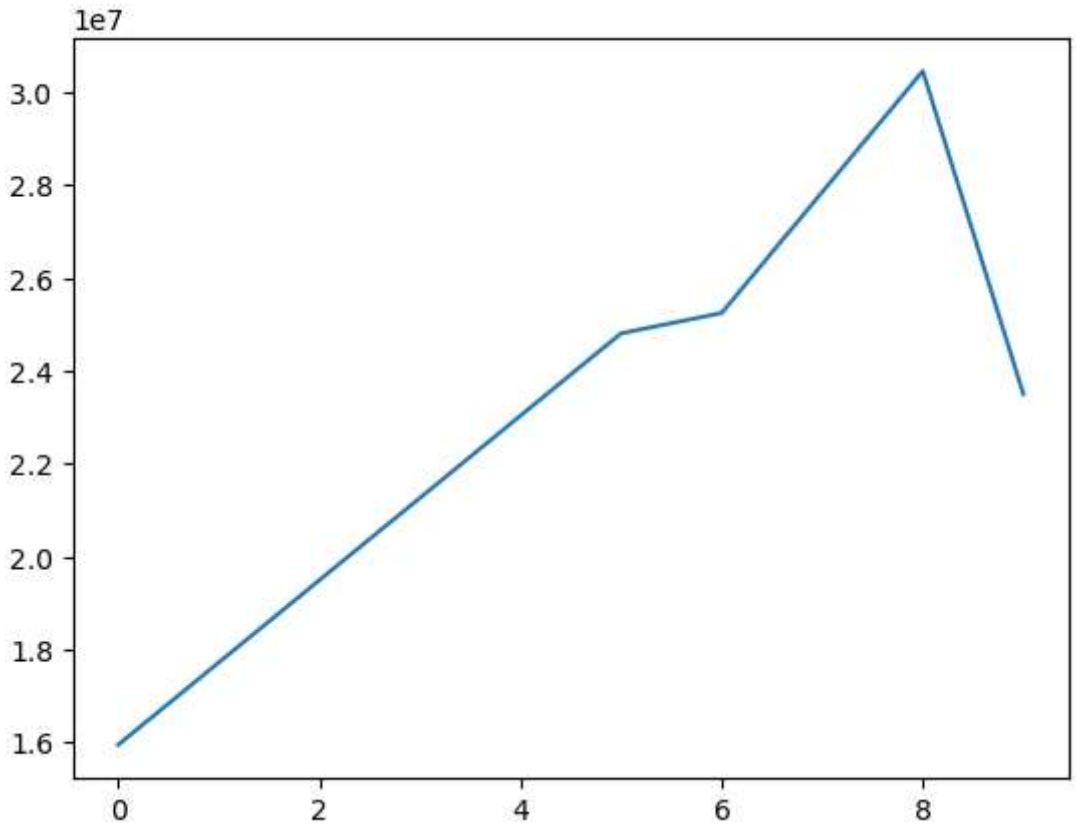
In [13]:
```
import matplotlib.pyplot as plt
```

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]])
```

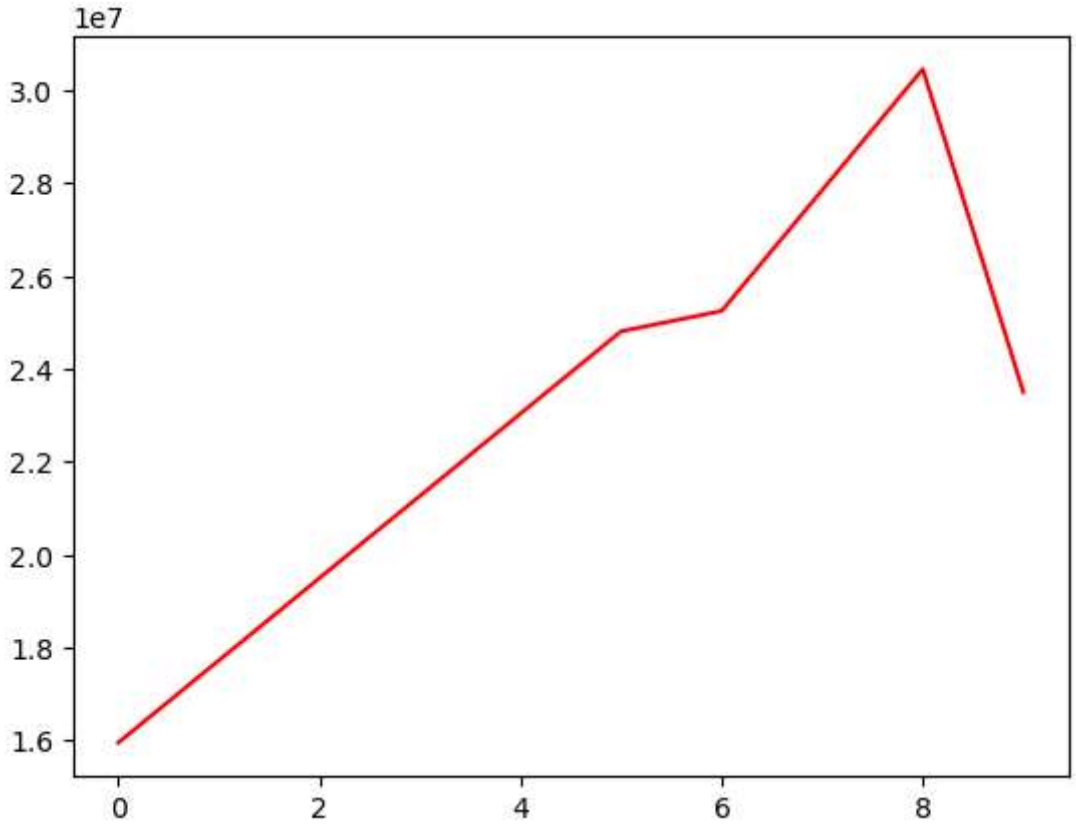
In [15]:
```
plt.plot(Salary[0])
```

Out[15]:
```
[<matplotlib.lines.Line2D at 0x2a7f9703250>]
```



In [16]:
```
plt.plot(Salary[0], c='red')
```

Out[16]:
```
[<matplotlib.lines.Line2D at 0x2a7fa02c550>]
```



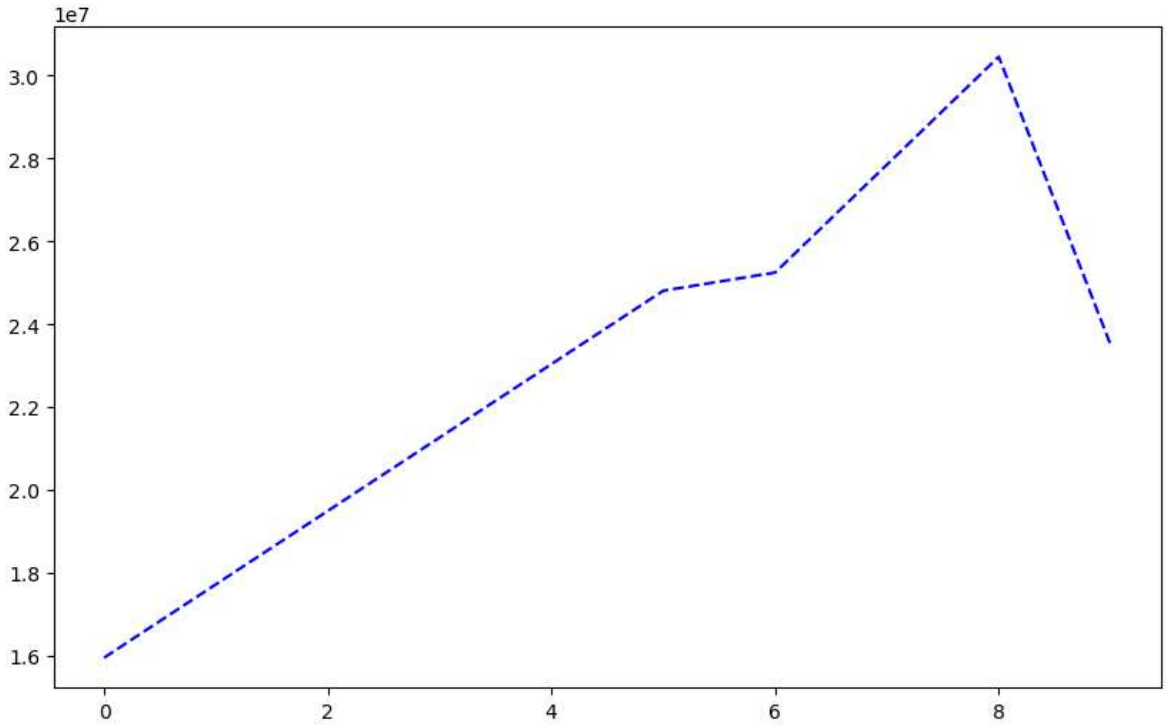
In [17]:
```
plt.rcParams['figure.figsize'] = 10,6
```

In [18]:
```
plt.rcParams['figure.figsize']
```

Out[18]:
```
[10.0, 6.0]
```

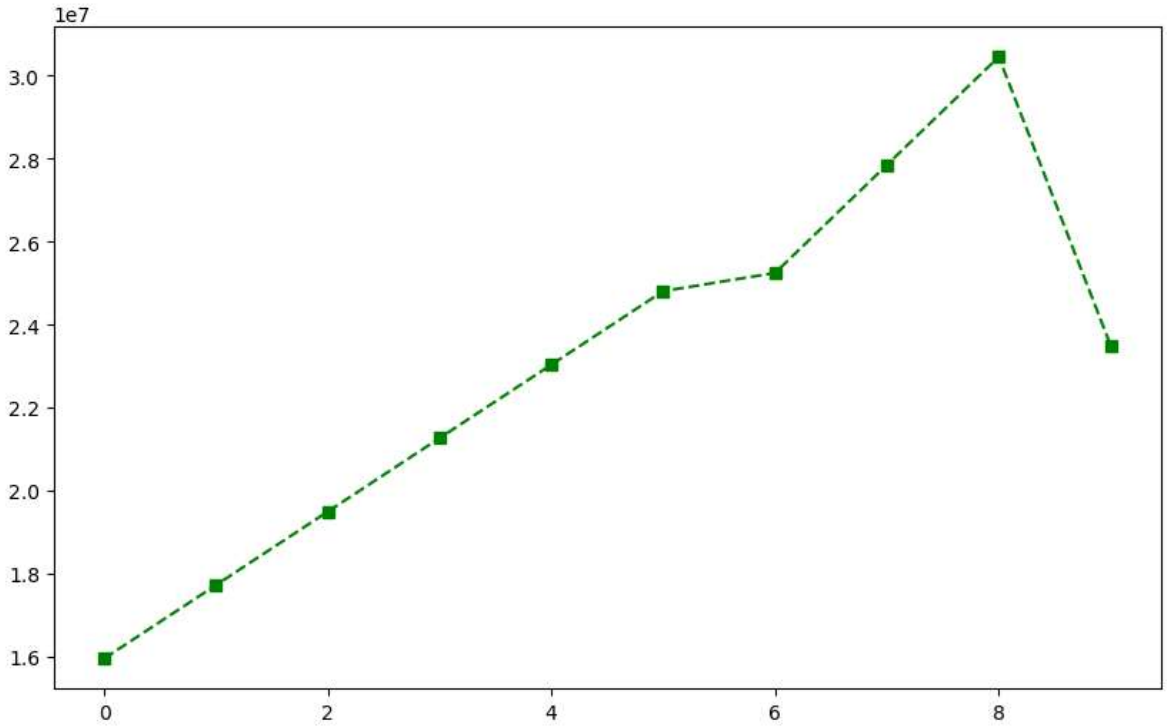
In [19]:
```
plt.plot(Salary[0], c='Blue', ls = 'dashed')
```

Out[19]:
```
[<matplotlib.lines.Line2D at 0x2a7fa08e410>]
```



In [20]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's')
```

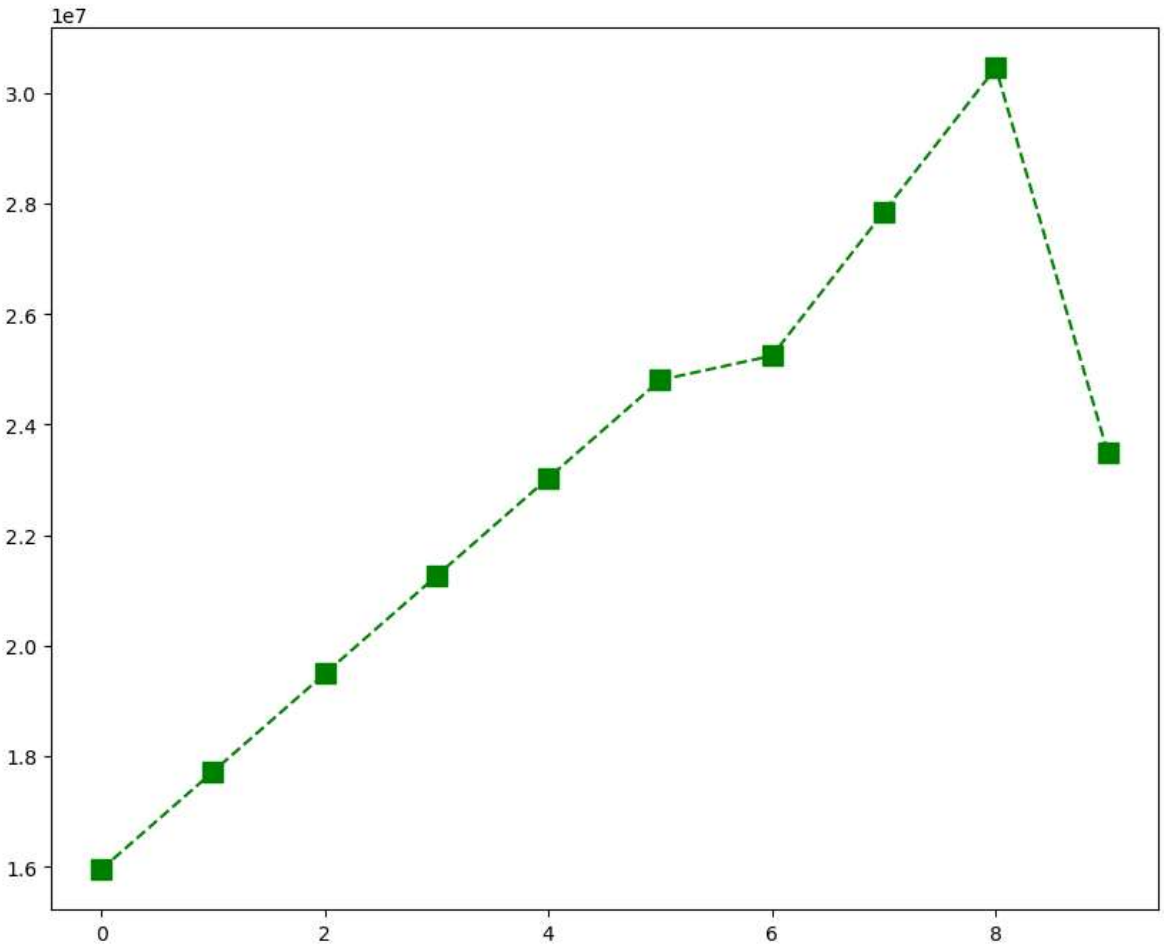
Out[20]:
```
[<matplotlib.lines.Line2D at 0x2a7fa0fbd90>]
```



In [21]:
```
plt.rcParams['figure.figsize'] = 10,8
```

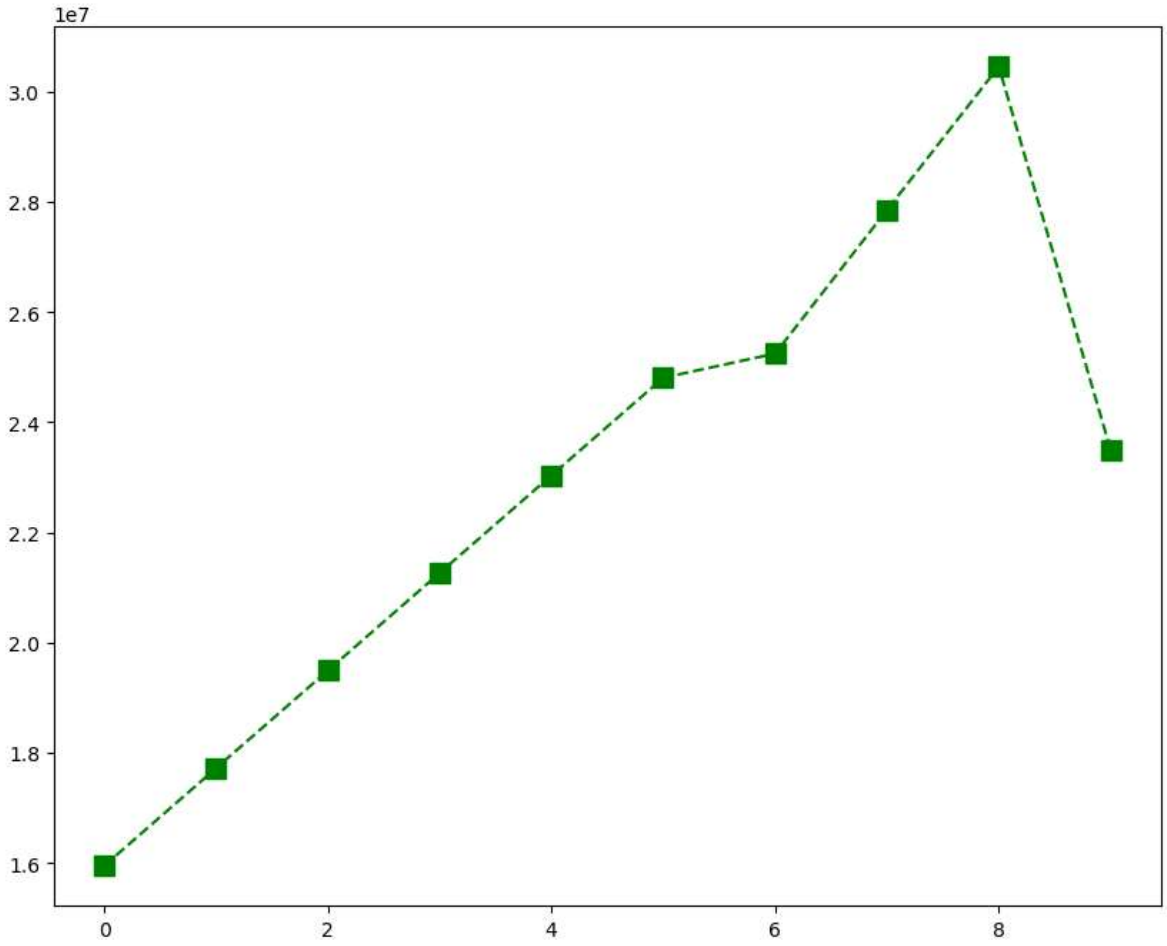
In [22]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10)
```

Out[22]:
```
[<matplotlib.lines.Line2D at 0x2a7f9781690>]
```



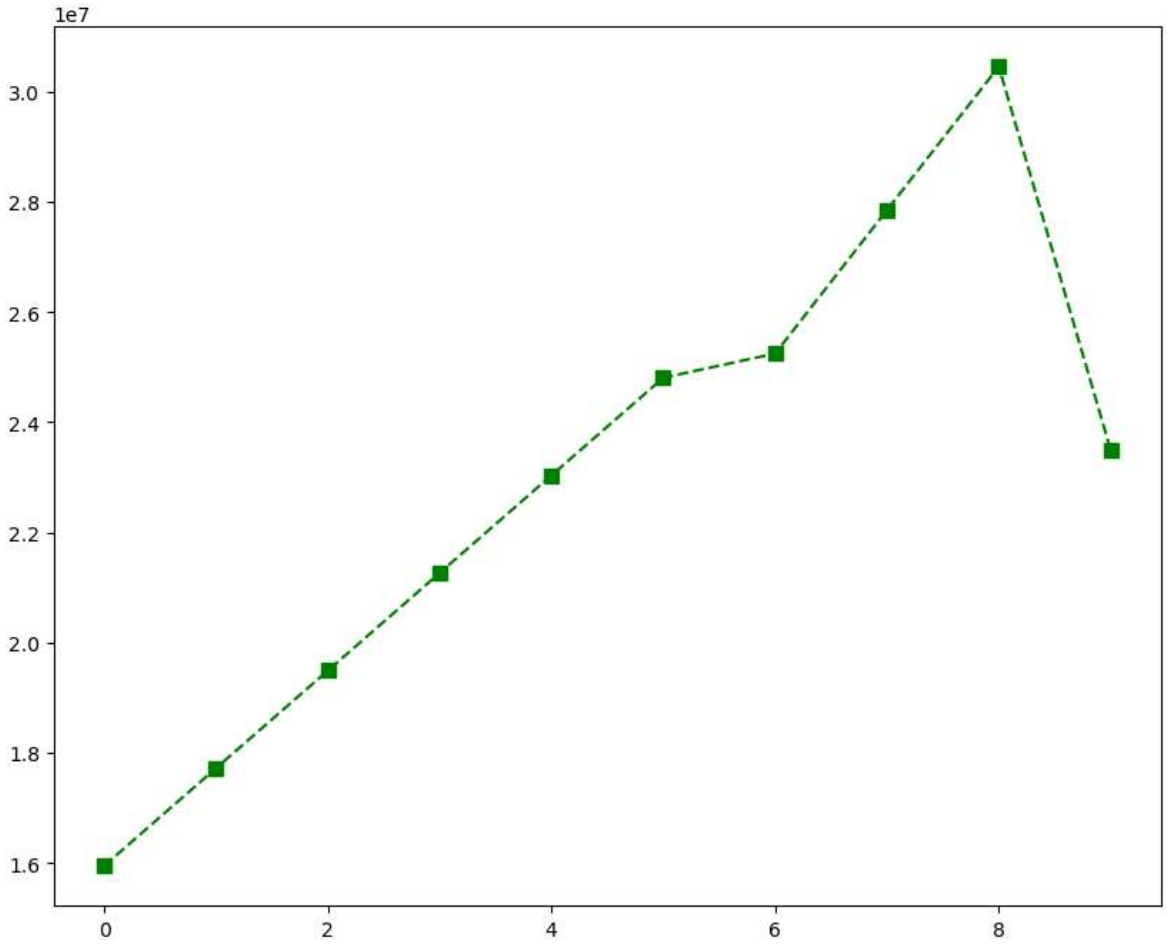
In [23]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10)
```

Out[23]:
```
[<matplotlib.lines.Line2D at 0x2a7fa12cf10>]
```



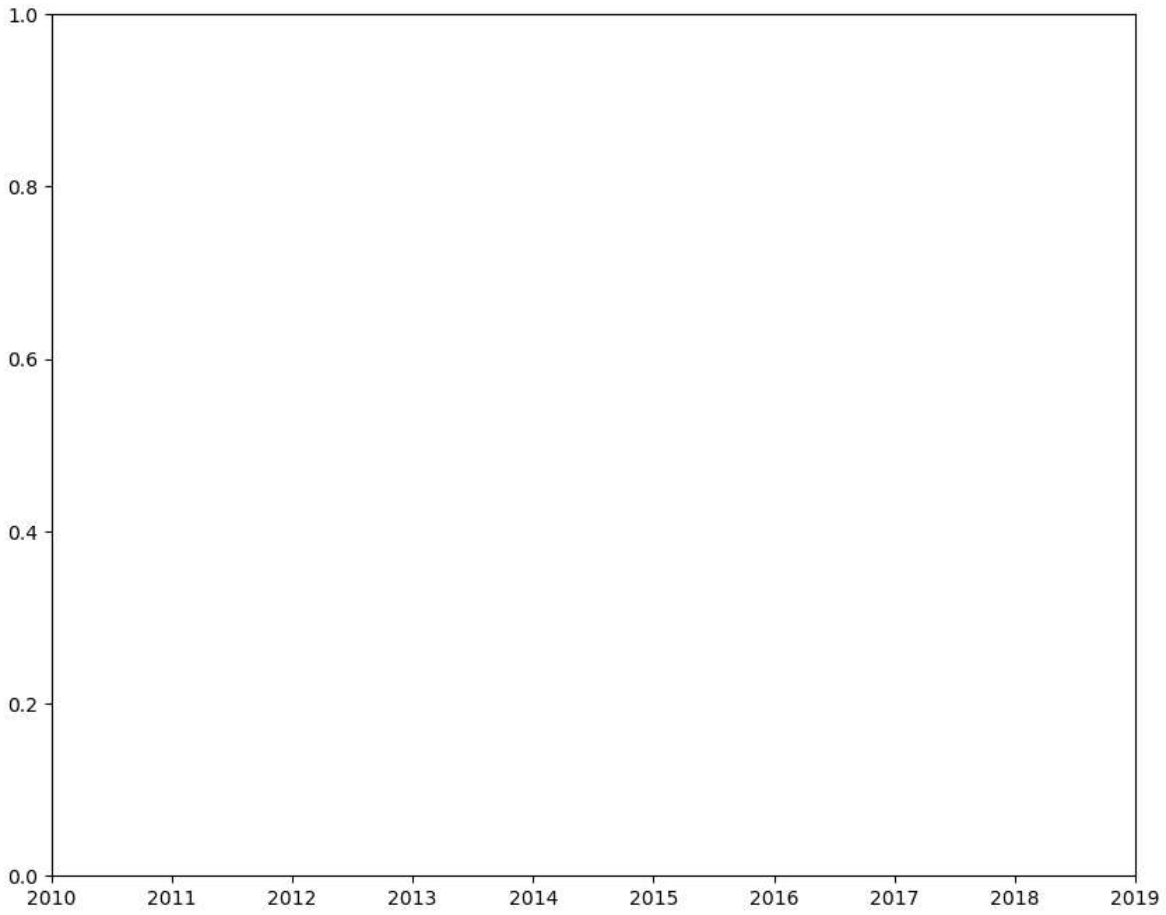
In [24]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7)
```

Out[24]:
```
[<matplotlib.lines.Line2D at 0x2a7fa75f2b0>]
```



In [25]:
```
plt.xticks(list(range(0,10)), Seasons)
```

Out[25]:
```
([<matplotlib.axis.XTick at 0x2a7fa7bd750>,
  <matplotlib.axis.XTick at 0x2a7fa7bd720>,
  <matplotlib.axis.XTick at 0x2a7fa7bd330>,
  <matplotlib.axis.XTick at 0x2a7fa7e59c0>,
  <matplotlib.axis.XTick at 0x2a7fa7e6080>,
  <matplotlib.axis.XTick at 0x2a7fa7e6b30>,
  <matplotlib.axis.XTick at 0x2a7fa7e75e0>,
  <matplotlib.axis.XTick at 0x2a7fa7e7d30>,
  <matplotlib.axis.XTick at 0x2a7fa7e6f50>,
  <matplotlib.axis.XTick at 0x2a7fa7be560>],
 [Text(0, 0, '2010'),
  Text(1, 0, '2011'),
  Text(2, 0, '2012'),
  Text(3, 0, '2013'),
  Text(4, 0, '2014'),
  Text(5, 0, '2015'),
  Text(6, 0, '2016'),
  Text(7, 0, '2017'),
  Text(8, 0, '2018'),
  Text(9, 0, '2019')])
```



In [26]:
```
plt.show()
```

In [27]:
```
plt
```

Out[27]:
```
<module 'matplotlib.pyplot' from 'C:\\Users\\Admin\\anaconda3\\lib\\site-pac
kages\\matplotlib\\pyplot.py'>
```

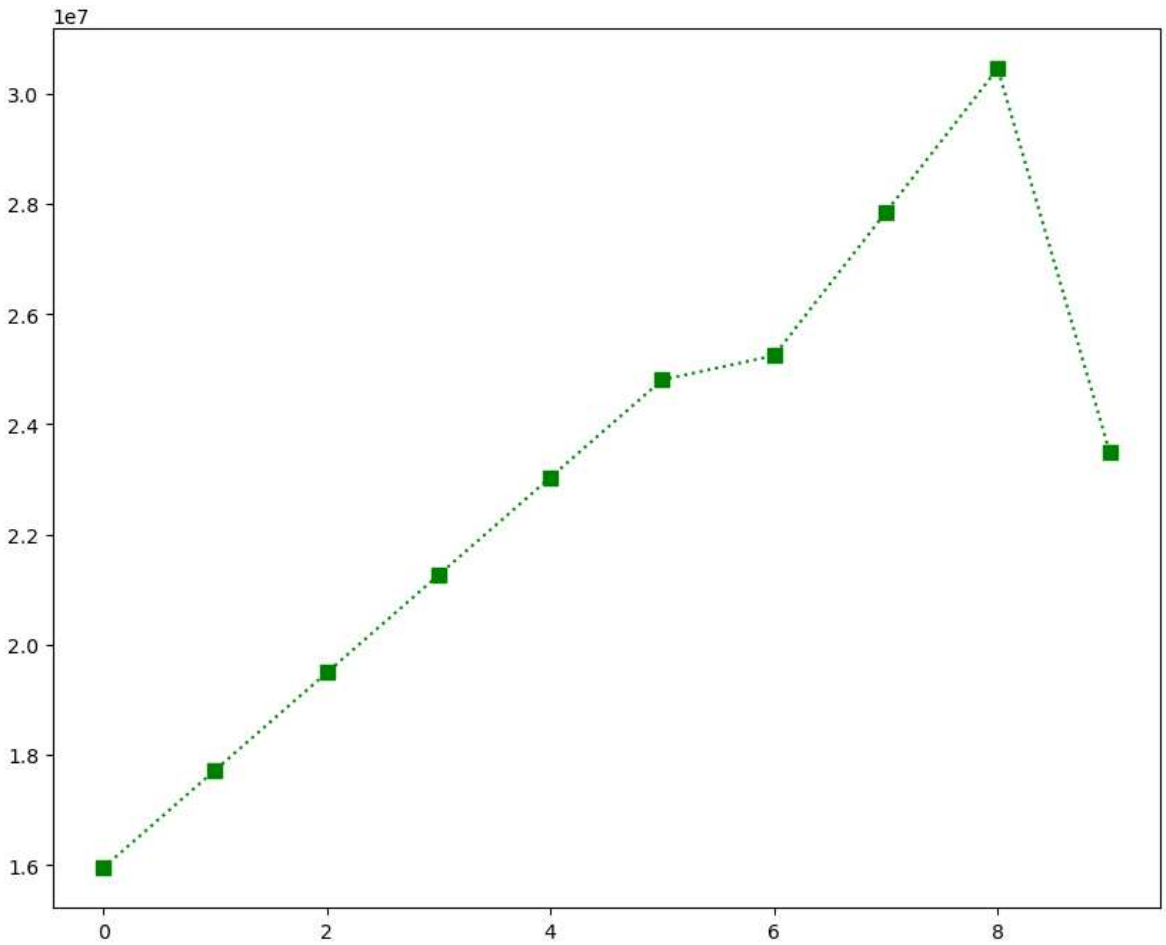
In [28]:
```
plt.plot(Salary[0], c='Green', ls = ':', marker = 's', ms = 7, label = Player
```

```
  Cell In[28], line 1
    plt.plot(Salary[0], c='Green', ls = ':', marker = 's', ms = 7, label = P
layers[0]

^
SyntaxError: incomplete input
```

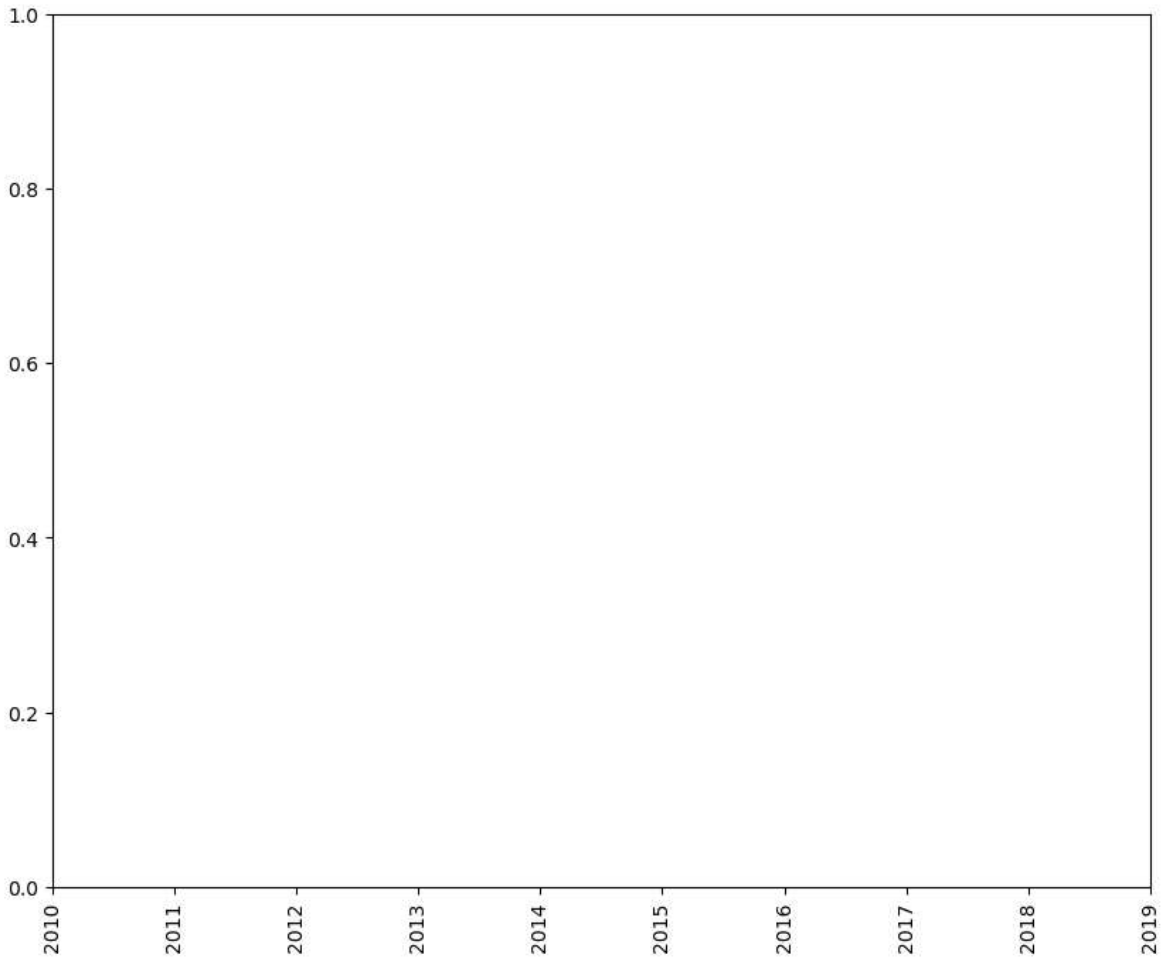
In [29]:
```
plt.plot(Salary[0], c='Green', ls = ':', marker = 's', ms = 7, label = Player
```

Out[29]:
```
[<matplotlib.lines.Line2D at 0x2a7fa852ad0>]
```



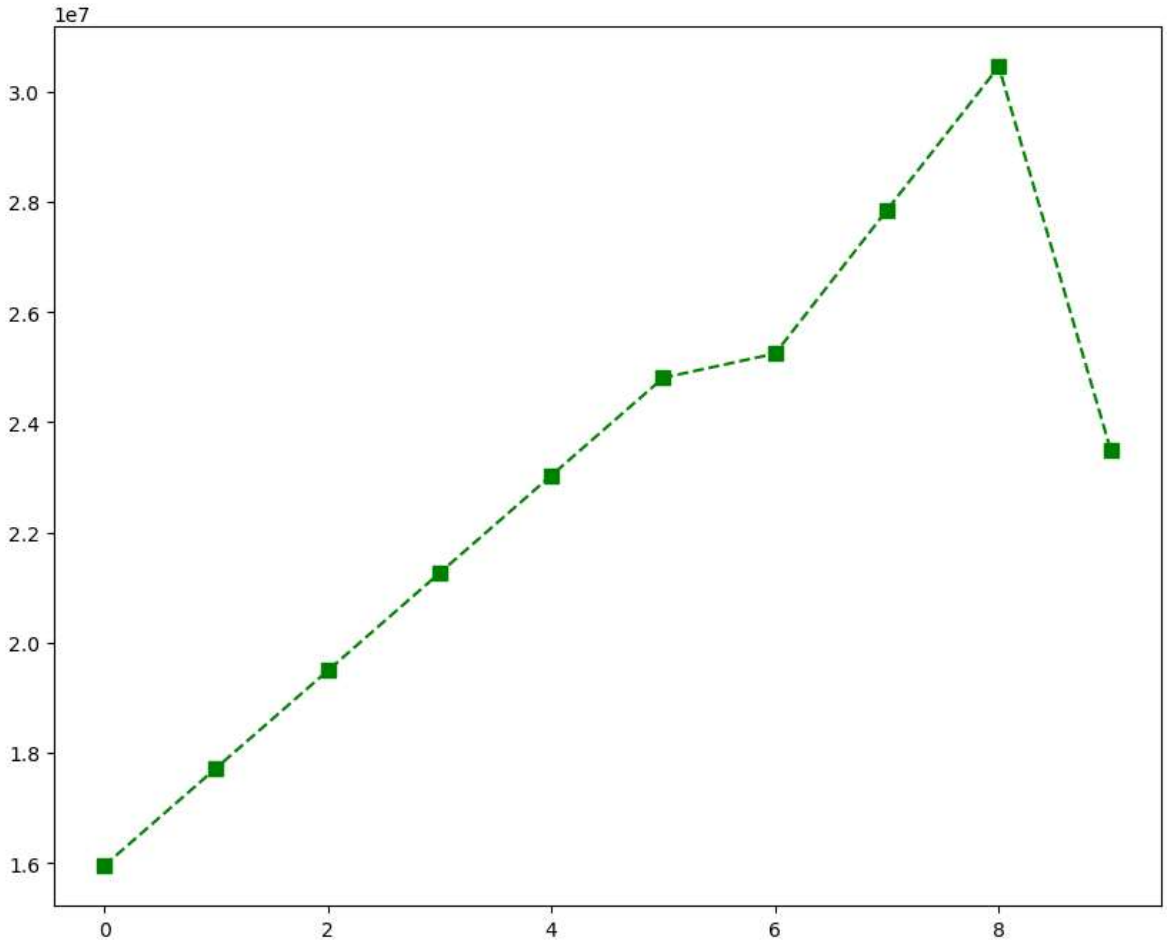
In [30]:
```
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
```

Out[30]:
```
([<matplotlib.axis.XTick at 0x2a7fa8bcf10>,
  <matplotlib.axis.XTick at 0x2a7fa8bcee0>,
  <matplotlib.axis.XTick at 0x2a7fa8bcaf0>,
  <matplotlib.axis.XTick at 0x2a7fa8e12a0>,
  <matplotlib.axis.XTick at 0x2a7fa874ca0>,
  <matplotlib.axis.XTick at 0x2a7fa8e1c00>,
  <matplotlib.axis.XTick at 0x2a7fa8e26b0>,
  <matplotlib.axis.XTick at 0x2a7fa8e3160>,
  <matplotlib.axis.XTick at 0x2a7fa8e3c10>,
  <matplotlib.axis.XTick at 0x2a7fa8e2200>],
 [Text(0, 0, '2010'),
  Text(1, 0, '2011'),
  Text(2, 0, '2012'),
  Text(3, 0, '2013'),
  Text(4, 0, '2014'),
  Text(5, 0, '2015'),
  Text(6, 0, '2016'),
  Text(7, 0, '2017'),
  Text(8, 0, '2018'),
  Text(9, 0, '2019')])
```



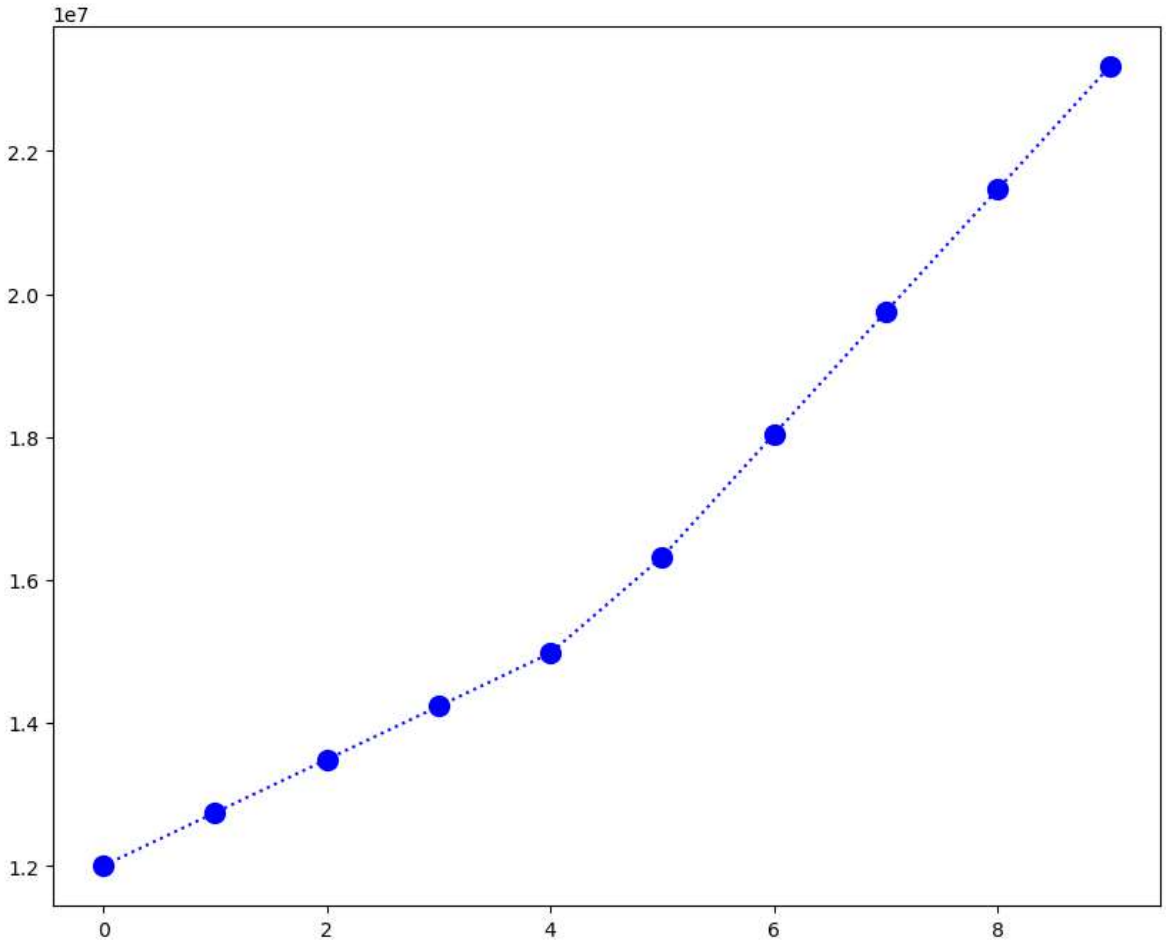
In [31]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Playe
```

Out[31]:
```
[<matplotlib.lines.Line2D at 0x2a7fa94e1d0>]
```



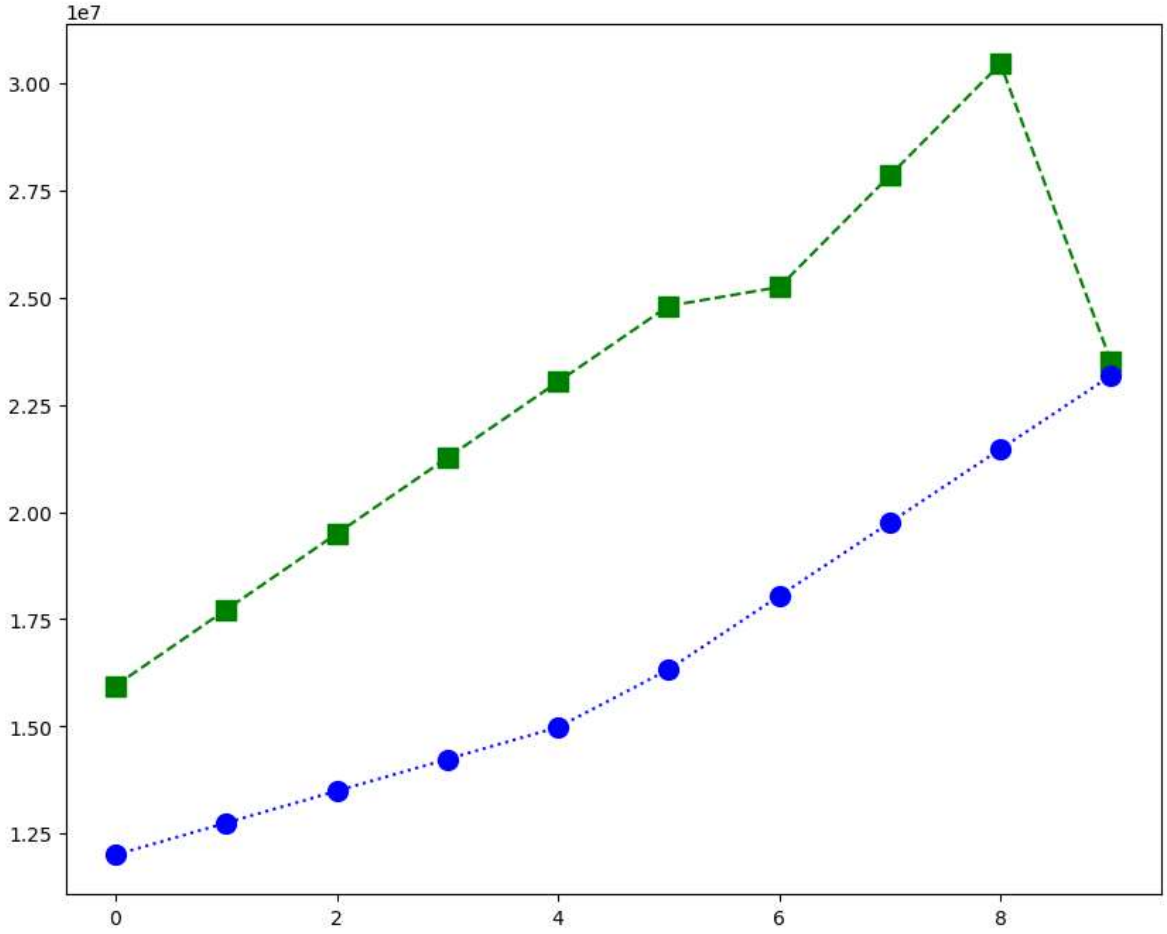
In [32]:
```
plt.plot(Salary[1], c='Blue', ls = ':', marker = 'o', ms = 10, label = Player
```

Out[32]:
```
[<matplotlib.lines.Line2D at 0x2a7fa9af940>]
```



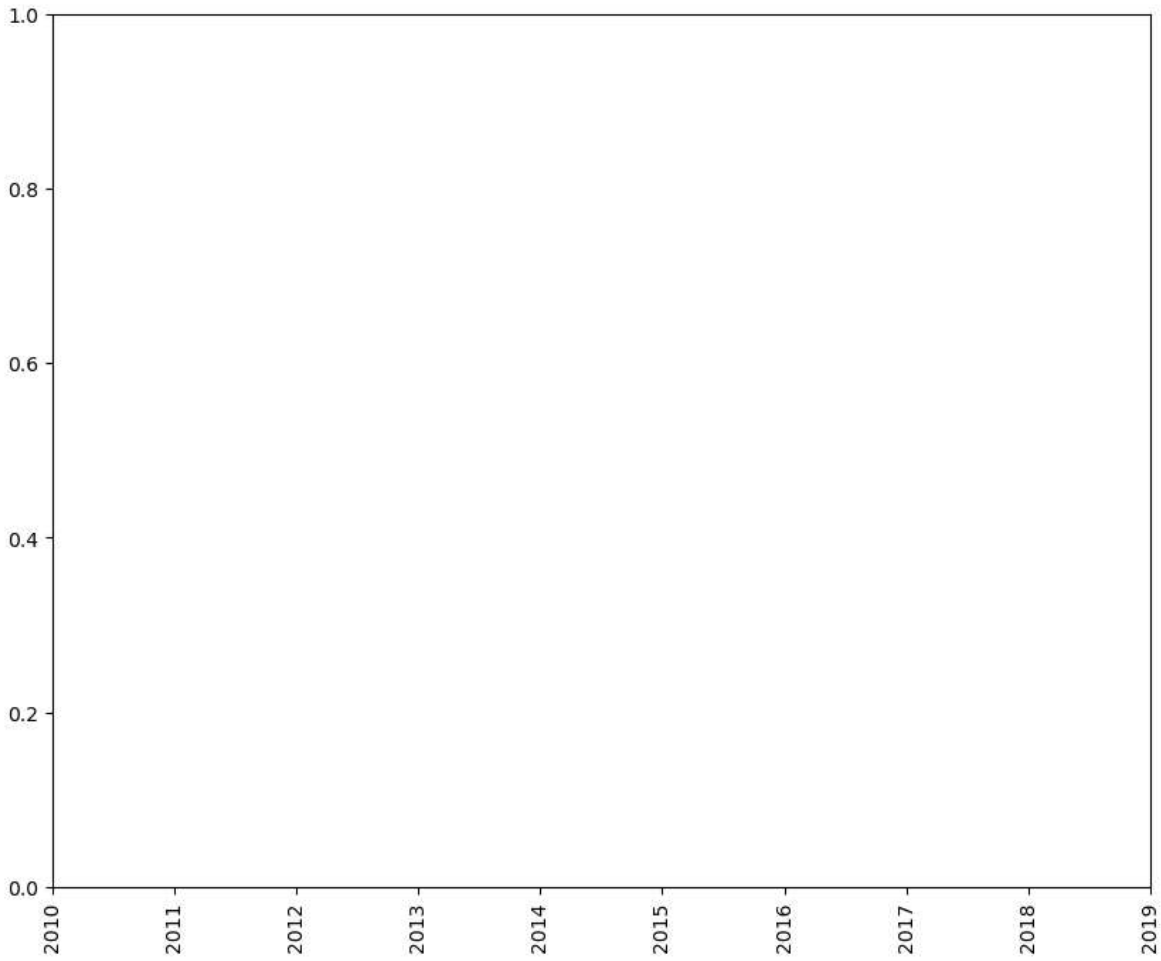
In [33]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 10, label = Play
plt.plot(Salary[1], c='Blue', ls = ':', marker = 'o', ms = 10, label = Player
```

Out[33]:
```
[<matplotlib.lines.Line2D at 0x2a7fb1cce80>]
```



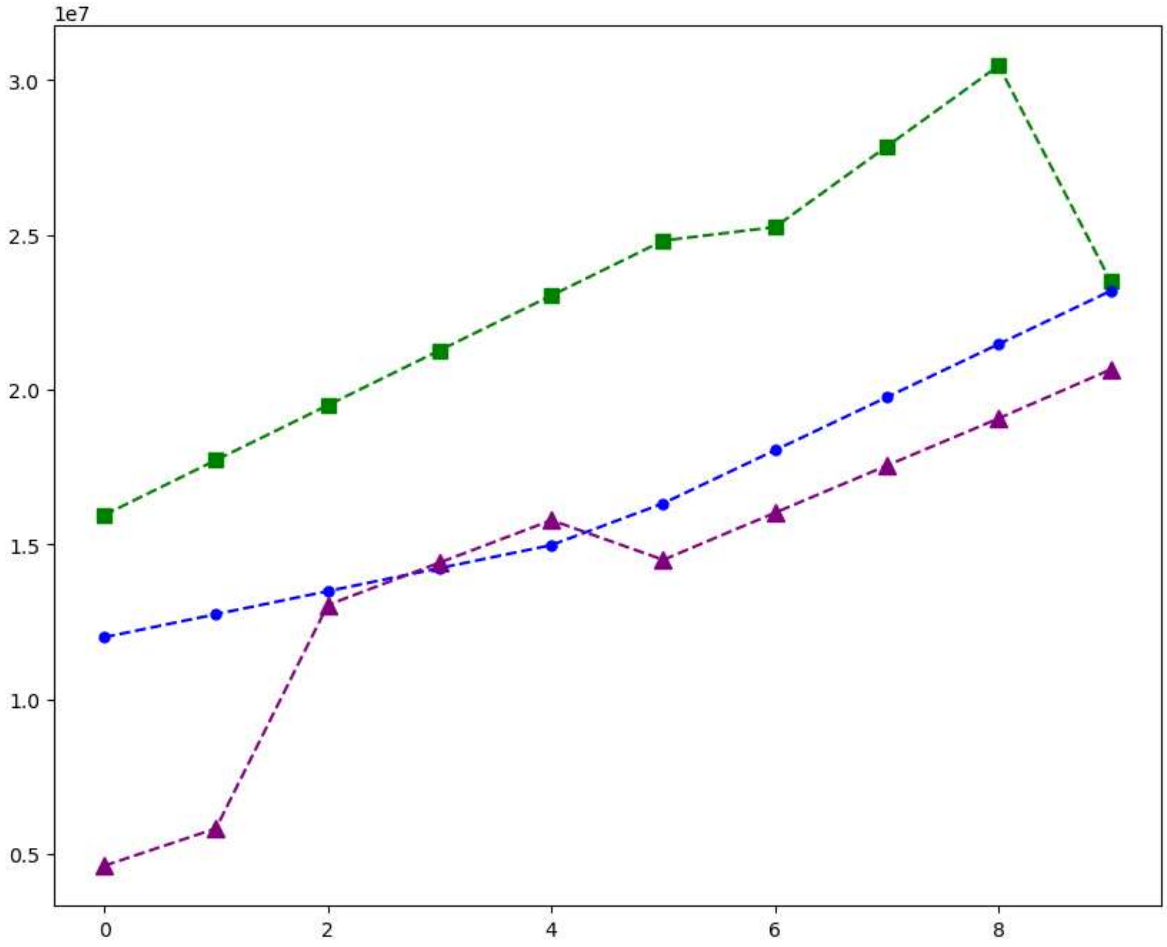
In [34]:
```
plt.xticks(list(range(0,10)), Seasons,rotation='vertical')
```

Out[34]:
```
([<matplotlib.axis.XTick at 0x2a7fb216cb0>,
  <matplotlib.axis.XTick at 0x2a7fb216c80>,
  <matplotlib.axis.XTick at 0x2a7fb216890>,
  <matplotlib.axis.XTick at 0x2a7fb236770>,
  <matplotlib.axis.XTick at 0x2a7fb237220>,
  <matplotlib.axis.XTick at 0x2a7fb237cd0>,
  <matplotlib.axis.XTick at 0x2a7fb2607c0>,
  <matplotlib.axis.XTick at 0x2a7fb235fc0>,
  <matplotlib.axis.XTick at 0x2a7fb2611e0>,
  <matplotlib.axis.XTick at 0x2a7fb261c90>],
 [Text(0, 0, '2010'),
  Text(1, 0, '2011'),
  Text(2, 0, '2012'),
  Text(3, 0, '2013'),
  Text(4, 0, '2014'),
  Text(5, 0, '2015'),
  Text(6, 0, '2016'),
  Text(7, 0, '2017'),
  Text(8, 0, '2018'),
  Text(9, 0, '2019')])
```



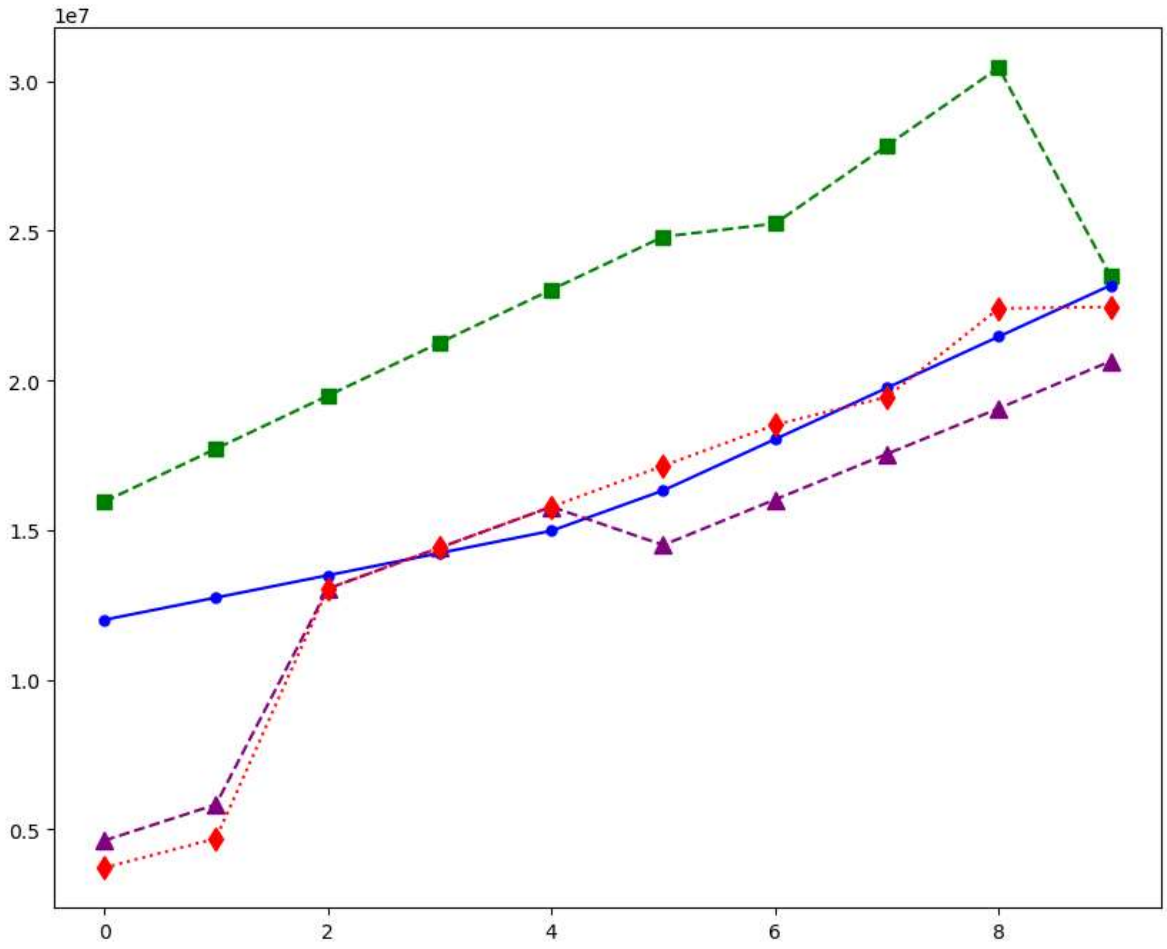
In [36]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Playe
plt.plot(Salary[1], c='Blue', ls = '--', marker = 'o', ms = 5, label = Player
plt.plot(Salary[2], c='purple', ls = '--', marker = '^', ms = 8, label = Play
```

Out[36]:
```
[<matplotlib.lines.Line2D at 0x2a7fb2cc550>]
```



In [37]:
```
plt.plot(Salary[0], c='Green', ls = '--', marker = 's', ms = 7, label = Playe
plt.plot(Salary[1], c='Blue', ls = '-', marker = 'o', ms = 5, label = Players
plt.plot(Salary[2], c='purple', ls = '--', marker = '^', ms = 8, label = Play
plt.plot(Salary[3], c='Red', ls = ':', marker = 'd', ms = 8, label = Players[
```

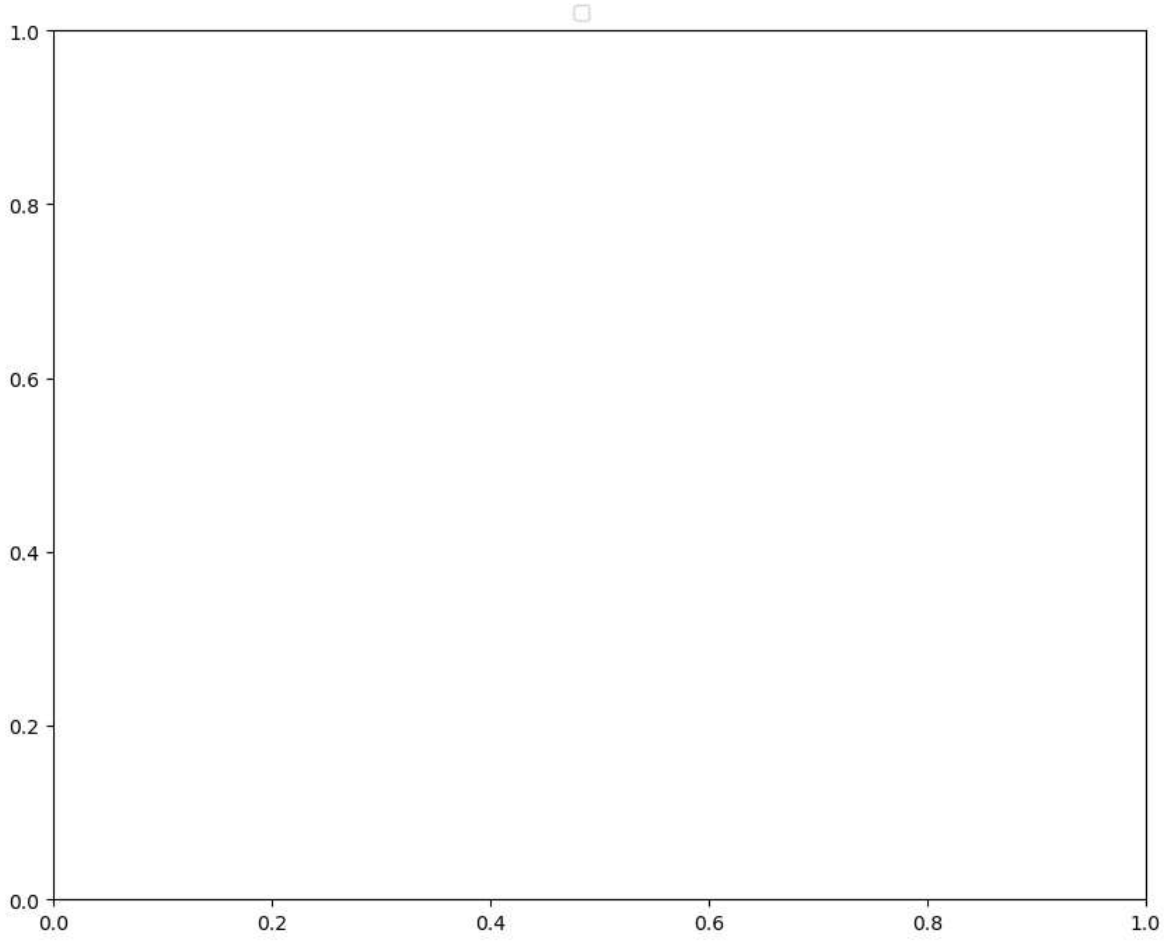
Out[37]:
```
[<matplotlib.lines.Line2D at 0x2a7fb329a80>]
```



In [39]:
```
plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1) )
```

```
No artists with labels found to put in legend.  Note that artists whose labe
l start with an underscore are ignored when legend() is called with no argum
ent.
```

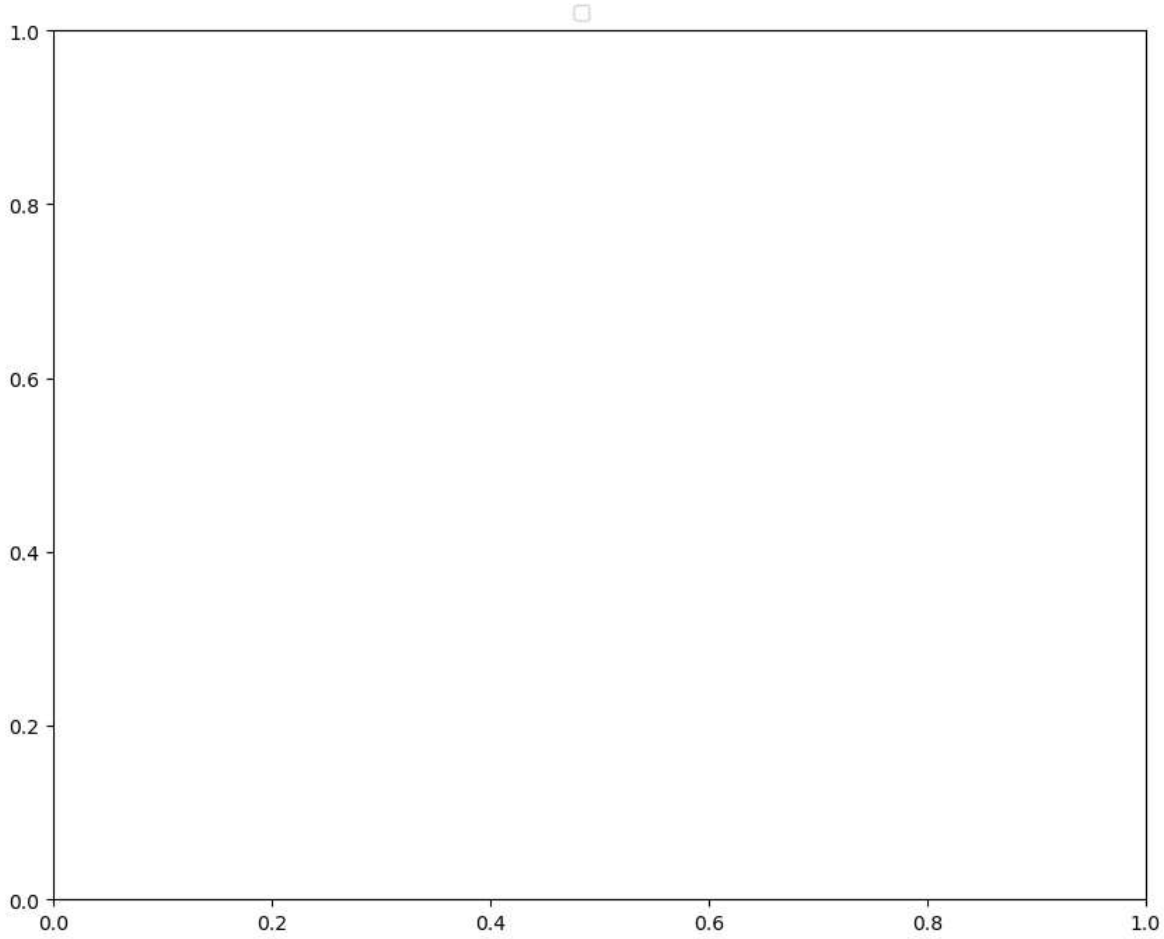
Out[39]:
```
<matplotlib.legend.Legend at 0x2a7804e1c00>
```



In [43]:
```
plt.legend(loc = 'lower right',bbox_to_anchor=(0.5,1))
```

```
No artists with labels found to put in legend.  Note that artists whose labe
l start with an underscore are ignored when legend() is called with no argum
ent.
```

Out[43]: <matplotlib.legend.Legend at 0x2a7804c7700>



In [44]:
```
import pandas as pd

# create a DataFrame
data = {'name': ['Alice', 'Bob', 'Charlie', 'David', 'Emily'],
        'age': [25, 30, 35, 40, 45],
        'city': ['New York', 'Paris', 'London', 'Tokyo', 'Sydney']}
df = pd.DataFrame(data)

# display the DataFrame
print(df)
```

```
      name  age      city
0    Alice   25  New York
1      Bob   30     Paris
2  Charlie   35    London
3    David   40     Tokyo
4    Emily   45    Sydney
```

In [ ]: