

```
In [1]:  import pandas as pd
```

```
In [2]:  csv_df=pd.read_csv('employees.csv')
csv_df
```

Out[2]:

	First Name	Gender	Start Date	Last Login Time	Salary	Bonus %	Senior Management	Team
0	Douglas	Male	8/6/1993	12:42 PM	97308	6.945	True	Marketing
1	Thomas	Male	3/31/1996	6:53 AM	61933	4.170	True	NaN
2	Maria	Female	4/23/1993	11:17 AM	130590	11.858	False	Finance
3	Jerry	Male	3/4/2005	1:00 PM	138705	9.340	True	Finance
4	Larry	Male	1/24/1998	4:47 PM	101004	1.389	True	Client Services
...
995	Henry	NaN	11/23/2014	6:09 AM	132483	16.655	False	Distribution
996	Phillip	Male	1/31/1984	6:30 AM	42392	19.675	False	Finance
997	Russell	Male	5/20/2013	12:39 PM	96914	1.421	False	Product
998	Larry	Male	4/20/2013	4:45 PM	60500	11.985	False	Business Development
999	Albert	Male	5/15/2012	6:24 PM	129949	10.169	True	Sales

1000 rows × 8 columns

Question 1

```
In [3]:  team_categ=csv_df['Team'].astype('category')
```

```
In [4]:  team_categ.value_counts()
```

Out[4]:

Client Services	106
Finance	102
Business Development	101
Marketing	98
Product	95
Sales	94
Engineering	92
Human Resources	91
Distribution	90
Legal	88

Name: Team, dtype: int64

Question 2

```
In [5]: ► teams_salaries=csv_df[['Team', 'Salary']].groupby('Team')
teams_salaries.transform(lambda x:x.mean())
```

Out[5]:

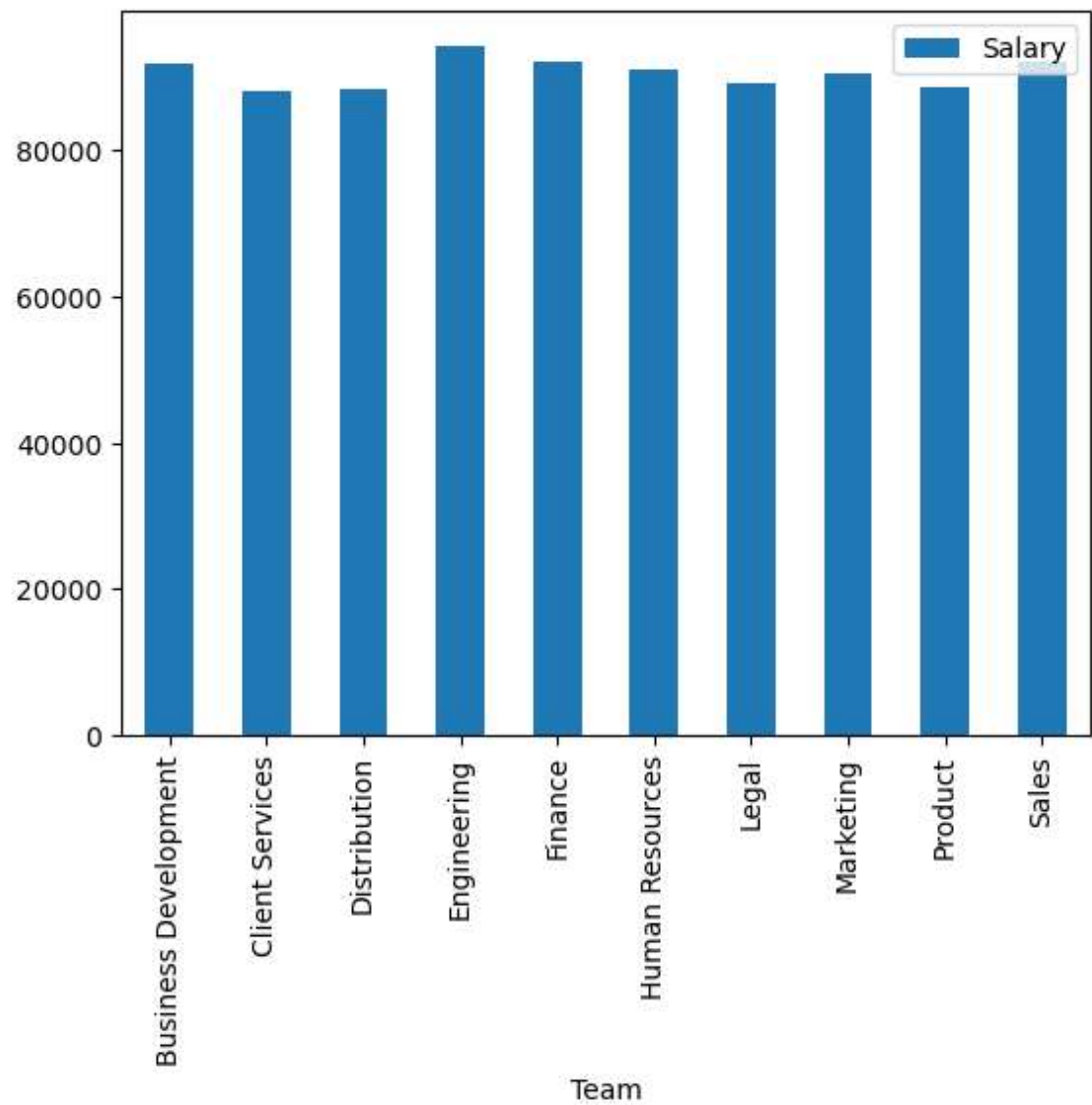
	Salary
0	90435.591837
2	92219.480392
3	92219.480392
4	88224.424528
5	89303.613636
...	...
995	88500.466667
996	92219.480392
997	88665.505263
998	91866.316832
999	92173.436170

957 rows × 1 columns

Question 3

```
In [6]: teams_salaries.mean().plot.bar()
```

```
Out[6]: <AxesSubplot:xlabel='Team'>
```



Question 4

```
In [7]: ▶ date=pd.to_datetime(csv_df['Start Date'])
        date
```

```
Out[7]: 0      1993-08-06
        1      1996-03-31
        2      1993-04-23
        3      2005-03-04
        4      1998-01-24
        ...
        995    2014-11-23
        996    1984-01-31
        997    2013-05-20
        998    2013-04-20
        999    2012-05-15
        Name: Start Date, Length: 1000, dtype: datetime64[ns]
```

Question 5

```
In [8]: ▶ timeseries=pd.Series(csv_df['Bonus %'].array,index=date)
        timeseries
```

```
Out[8]: Start Date
        1993-08-06      6.945
        1996-03-31      4.170
        1993-04-23     11.858
        2005-03-04      9.340
        1998-01-24      1.389
        ...
        2014-11-23     16.655
        1984-01-31     19.675
        2013-05-20      1.421
        2013-04-20     11.985
        2012-05-15     10.169
        Length: 1000, dtype: float64
```

Question 6

```
In [9]: temp = pd.DataFrame({ 'start_date' :date , 'bonus' :csv_df['Bonus %'].arra  
temp
```

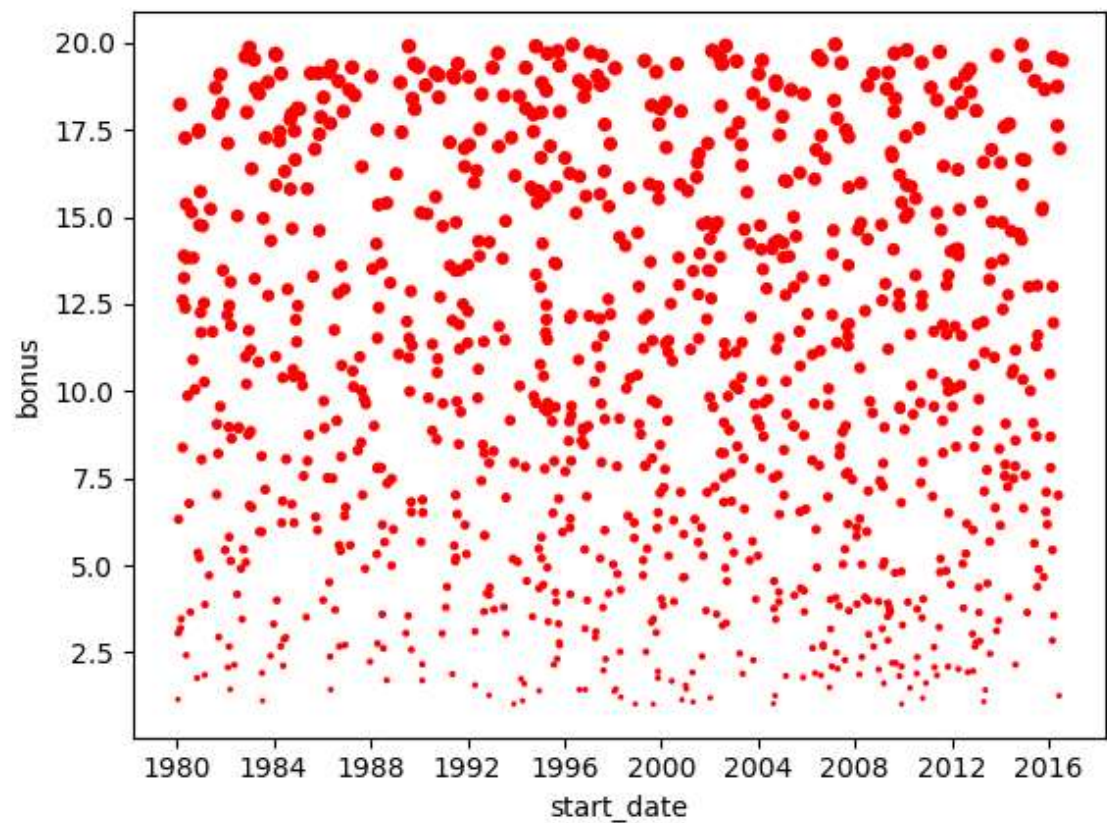
Out[9]:

	start_date	bonus
0	1993-08-06	6.945
1	1996-03-31	4.170
2	1993-04-23	11.858
3	2005-03-04	9.340
4	1998-01-24	1.389
...
995	2014-11-23	16.655
996	1984-01-31	19.675
997	2013-05-20	1.421
998	2013-04-20	11.985
999	2012-05-15	10.169

1000 rows × 2 columns

```
In [10]: temp.plot.scatter(x='start_date',y='bonus',s=temp['bonus'],c='r')
```

Out[10]: <AxesSubplot:xlabel='start_date', ylabel='bonus'>



Question 7

```
In [11]: timeseries[:'2008/1/1']
```

```
Out[11]: Start Date
1993-08-06      6.945
1996-03-31      4.170
1993-04-23     11.858
2005-03-04      9.340
1998-01-24      1.389
...
1991-02-10      3.794
1987-07-24     10.982
2002-08-25     11.051
1997-05-15     19.040
1984-01-31     19.675
Length: 753, dtype: float64
```

Question 8

```
In [12]: timeseries.resample('3M',closed='right').mean()
```

```
Out[12]: Start Date
1980-01-31      3.507000
1980-04-30     10.426857
1980-07-31     10.192750
1980-10-31     12.474500
1981-01-31     11.314000
...
2015-07-31     10.327500
2015-10-31     10.002500
2016-01-31      9.347143
2016-04-30      9.394667
2016-07-31     13.511167
Freq: 3M, Length: 147, dtype: float64
```

```
In [ ]:
```