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]:

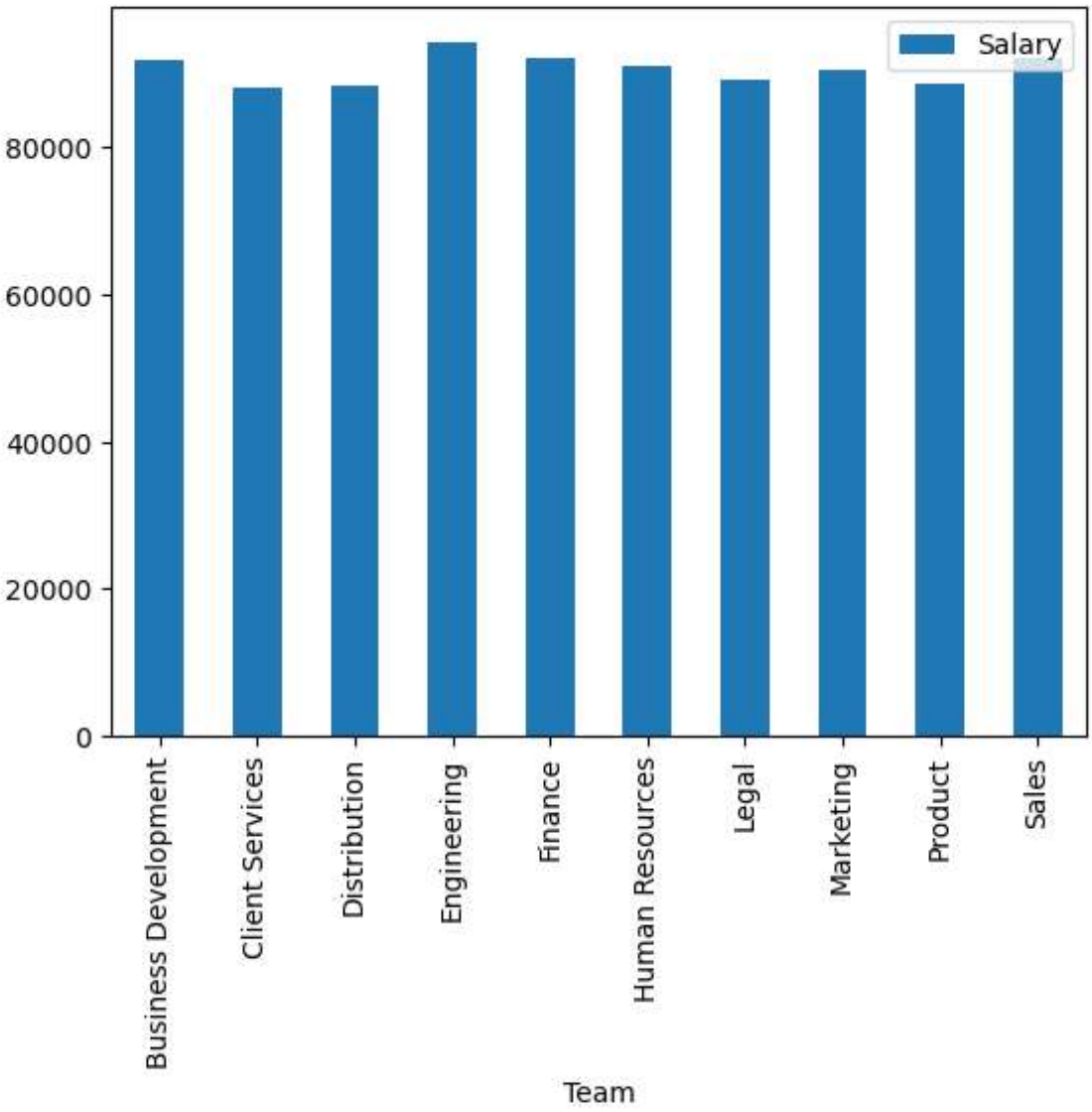
	Salary
0	90435.591837
2	92219.480392
3	92219.480392
4	88224.424528
5	89303.613636
...	...
995	88500.466667
996	92219.480392
997	88665.505263
998	91866.316832
999	92173.436170

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
```

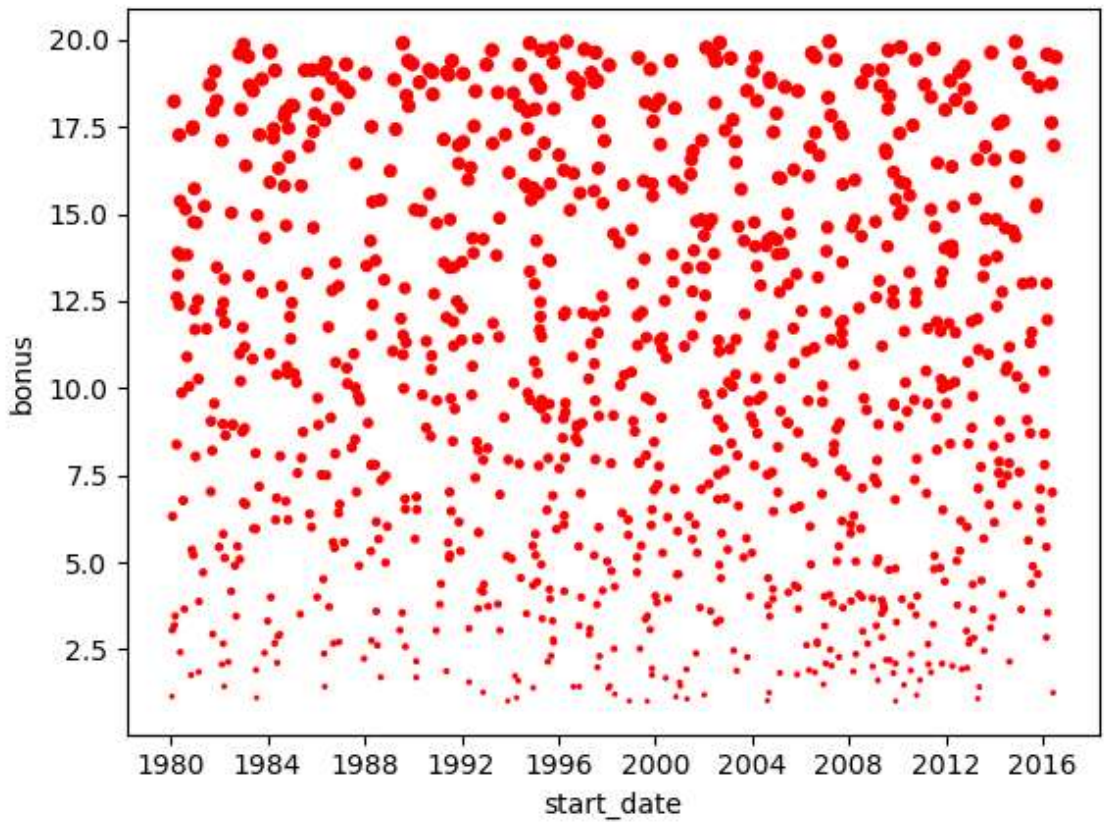
Out[9]:

	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 [ ]:
```

```