```
import pandas as pd
df = pd.read_csv("D:\\bizschoolpython\\Sample.csv")
df
```

Out[1]:

	First Name	Gender	Start Date	Last Login Time	Salary	Bonus %	Senior Management	Team
0	Douglas	Male	08-06-1993	12:42 PM	97308.0	6.945	True	Marketing
1	Thomas	Male	3/31/1996	6:53 AM	61933.0	4.170	True	NaN
2	Maria	Female	4/23/1993	11:17 AM	130590.0	11.858	False	Finance
3	Jerry	Male	03-04-2005	1:00 PM	NaN	9.340	True	Finance
4	Larry	Male	1/24/1998	4:47 PM	101004.0	1.389	True	Client Services
5	Dennis	Male	4/18/1987	1:35 AM	115163.0	10.125	False	Legal
6	Ruby	Female	8/17/1987	4:20 PM	65476.0	10.012	True	Product
7	NaN	Female	7/20/2015	10:43 AM	45906.0	11.598	NaN	Finance
8	Angela	Female	11/22/2005	6:29 AM	NaN	18.523	True	Engineering
9	Frances	Female	08-08-2002	6:51 AM	139852.0	7.524	True	Business Development
10	Louise	Female	08-12-1980	9:01 AM	63241.0	15.132	True	NaN
11	Julie	Female	10/26/1997	3:19 PM	102508.0	12.637	True	Legal
12	Brandon	Male	12-01-1980	1:08 AM	112807.0	17.492	True	Human Resources
13	Gary	Male	1/27/2008	11:40 PM	109831.0	5.831	False	Sales
14	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance
15	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product
16	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources
17	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Product
18	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services
19	Donna	Female	7/22/2010	3:48 AM	81014.0	1.894	False	Product
20	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance
21	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product
22	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources
23	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Product
24	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services
25	Donna	Female	7/22/2010	3:48 AM	81014.0	1.894	False	Product

n [2]:	df	head(6)							
out[2]:		First Name	Gender	Start Date	Last Login Time	Salary	Bonus %	Senior Management	Team
	0	Douglas	Male	08-06-1993	12:42 PM	97308.0	6.945	True	Marketing
	1	Thomas	Male	3/31/1996	6:53 AM	61933.0	4.170	True	NaN
	2	Maria	Female	4/23/1993	11:17 AM	130590.0	11.858	False	Finance
	3	Jerry	Male	03-04-2005	1:00 PM	NaN	9.340	True	Finance
	4	Larry	Male	1/24/1998	4:47 PM	101004.0	1.389	True	Client Services
	5	Dennis	Male	4/18/1987	1:35 AM	115163.0	10.125	False	Legal
n [3]: ut[3]:	df	tail() First Name	Gender	Start Date	Last Login Time	Salary	Bonus %	Senior Management	Team
	21	Lillian	Female	e 06-05-2016	6:09 AM	59414.0	1,256	False	Product
	22	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources
	23	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Dua du et
				12 07 1500			0.414	raise	Product
	24	Diana		10/23/1981					
	24 25	Diana Donna	Female	· 10/23/1981	10:27 AM	132940.0	19.082	False	
n [4]:	25		Female	· 10/23/1981	10:27 AM	132940.0	19.082	False	Client Services
n [4]: ut[4]:	25	Donna columns lex(['First 'Bonus	Female Female	e 10/23/1981 e 7/22/2010 'Gender', enior Mana	10:27 AM	132940.0 81014.0 'Last Lo	19.082 1.894	False False	Client Services

Team	Gender	First Name		Out[5]:
Marketing	Male	Douglas	0	
NaN	Ma l e	Thomas	1	
Finance	Female	Maria	2	
Finance	Male	Jerry	3	
Client Services	Male	Larry	4	
Legal	Male	Dennis	5	
Product	Female	Ruby	6	
Finance	Female	NaN	7	
Engineering	Female	Angela	8	
Business Development	Female	Frances	9	
NaN	Female	Louise	10	
Legal	Female	Julie	11	
Human Resources	Male	Brandon	12	
Sales	Male	Gary	13	
Finance	Female	Kimberly	14	
Product	Female	Lillian	15	
Human Resources	Male	Jeremy	16	
Product	Male	Shawn	17	
Client Services	Female	Diana	18	
Product	Female	Donna	19	
Finance	Female	Kimberly	20	
Product	Female	Lillian	21	
Human Resources	Male	Jeremy	22	
Product	Male	Shawn	23	
Client Services	Female	Diana	24	
Product	Female	Donna	25	

```
In [6]: df = df.rename(columns={"First Name" : "Name", "Bonus %":"Bonus"})
In [7]: df
```

Out[7]:

1 Thomas Male 3/31/1996 6:53 AM 61933.0 4.170 True 2 Maria Female 4/23/1993 11:17 AM 130590.0 11.858 False 3 Jerry Male 03-04-2005 1:00 PM NaN 9.340 True 4 Larry Male 1/24/1998 4:47 PM 101004.0 1.389 True Client 5 Dennis Male 4/18/1987 1:35 AM 115163.0 10.125 False 6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN	NaN Finance Finance Services Legal Product Finance gineering lopment
2 Maria Female 4/23/1993 11:17 AM 130590.0 11.858 False 3 Jerry Male 03-04-2005 1:00 PM NaN 9.340 True 4 Larry Male 1/24/1998 4:47 PM 101004.0 1.389 True Client 5 Dennis Male 4/18/1987 1:35 AM 115163.0 10.125 False 6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True Human R 12	Finance Finance Services Legal Product Finance gineering
3 Jerry Male 03-04-2005 1:00 PM NaN 9.340 True 4 Larry Male 1/24/1998 4:47 PM 101004.0 1.389 True Client 5 Dennis Male 4/18/1987 1:35 AM 115163.0 10.125 False 6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True Human R 12 Brandon Male <th>Finance Services Legal Product Finance gineering</th>	Finance Services Legal Product Finance gineering
4 Larry Male 1/24/1998 4:47 PM 101004.0 1.389 True Client 5 Dennis Male 4/18/1987 1:35 AM 115163.0 10.125 False 6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True Human Re 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Re	Services Legal Product Finance gineering
5 Dennis Male 4/18/1987 1:35 AM 115163.0 10.125 False 6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Re	Legal Product Finance sineering
6 Ruby Female 8/17/1987 4:20 PM 65476.0 10.012 True 7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True Human Research 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Research	Product Finance gineering
7 NaN Female 7/20/2015 10:43 AM 45906.0 11.598 NaN 8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Re	Finance
8 Angela Female 11/22/2005 6:29 AM NaN 18.523 True Eng 9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Re	jineering
9 Frances Female 08-08-2002 6:51 AM 139852.0 7.524 True Business Deve 10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Research	
10 Louise Female 08-12-1980 9:01 AM 63241.0 15.132 True 11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Research	lopment
11 Julie Female 10/26/1997 3:19 PM 102508.0 12.637 True 12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Reserve	
12 Brandon Male 12-01-1980 1:08 AM 112807.0 17.492 True Human Re	NaN
	Legal
13 Gary Male 1/27/2008 11:40 PM 109831.0 5.831 False	esources
	Sales
14 Kimberly Female 1/14/1999 7:13 AM NaN 14.543 True	Finance
15 Lillian Female 06-05-2016 6:09 AM 59414.0 1.256 False	Product
16 Jeremy Male 9/21/2010 5:56 AM 90370.0 7.369 False Human Re	esources
17 Shawn Male 12-07-1986 7:45 PM 111737.0 6.414 False	Product
18 Diana Female 10/23/1981 10:27 AM 132940.0 19.082 False Client	Services
19 Donna Female 7/22/2010 3:48 AM 81014.0 1.894 False	Product
20 Kimberly Female 1/14/1999 7:13 AM NaN 14.543 True	Finance
21 Lillian Female 06-05-2016 6:09 AM 59414.0 1.256 False	Product
22 Jeremy Male 9/21/2010 5:56 AM 90370.0 7.369 False Human Re	esources
23 Shawn Male 12-07-1986 7:45 PM 111737.0 6.414 False	Product
24 Diana Female 10/23/1981 10:27 AM 132940.0 19.082 False Client	
25 Donna Female 7/22/2010 3:48 AM 81014.0 1.894 False	Services

```
In [8]: df["BonusAmt"] = (df["Bonus"] * df["Salary"])/100
In [9]: df
```

Out[9]:

	Name	Gender	Start Date	Last Login Time	Salary	Bonus	Senior Management	Team	BonusAmt
0	Douglas	Male	08-06-1993	12:42 PM	97308.0	6.945	True	Marketing	6758.04060
1	Thomas	Male	3/31/1996	6:53 AM	61933.0	4.170	True	NaN	2582.60610
2	Maria	Female	4/23/1993	11:17 AM	130590.0	11.858	False	Finance	15485.36220
3	Jerry	Ma l e	03-04-2005	1:00 PM	NaN	9.340	True	Finance	NaN
4	Larry	Male	1/24/1998	4:47 PM	101004.0	1.389	True	Client Services	1402.94556
5	Dennis	Male	4/18/1987	1:35 AM	115163.0	10.125	False	Legal	11660.25375
6	Ruby	Female	8/17/1987	4;20 PM	65476.0	10.012	True	Product	6555.45712
7	NaN	Female	7/20/2015	10:43 AM	45906.0	11.598	NaN	Finance	5324.17788
8	Angela	Female	11/22/2005	6:29 AM	NaN	18.523	True	Engineering	NaN
9	Frances	Female	08-08-2002	6:51 AM	139852.0	7.524	True	Business Development	10522,46448
10	Louise	Female	08-12-1980	9:01 AM	63241.0	15.132	True	NaN	9569.62812
11	Julie	Female	10/26/1997	3:19 PM	102508.0	12.637	True	Legal	12953.93596
12	Brandon	Male	12-01-1980	1:08 AM	112807.0	17.492	True	Human Resources	19732,20044
13	Gary	Male	1/27/2008	11:40 PM	109831.0	5.831	False	Sales	6404.24561
14	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance	NaN
15	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product	746.23984
16	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources	6659.36530
17	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Product	7166.81118
18	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services	25367.61080
19	Donna	Female	7/22/2010	3:48 AM	81014.0	1.894	False	Product	1534.40516
20	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance	NaN
21	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product	746.23984
22	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources	6659.36530
23	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Product	7166.81118
24	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services	25367.61080
25	Donna	Female	7/22/2010	3:48 AM	81014.0	1.894	False	Product	1534.40516

```
df[(df["Gender"] == "Male") & (df["Team"]=="Product")]
In [10]:
              Name Gender Start Date Last Login Time
                                                         Salary Bonus Senior Management
Out[10]:
                                                                                            Team BonusAmt
          17 Shawn
                        Male 12-07-1986
                                               7:45 PM 111737.0
                                                                 6.414
                                                                                    False Product 7166.81118
          23 Shawn
                        Male 12-07-1986
                                               7:45 PM 111737.0 6.414
                                                                                    False Product 7166.81118
In [16]: #Get all female --columns-- Name and Team
          df.loc[(df["Gender"] == "Female"),['Name','Team']]
                                     Team
Out[16]:
                Name
           2
                 Maria
                                   Finance
           6
                 Ruby
                                   Product
           7
                  NaN
                                   Finance
                                Engineering
                Angela
               Frances Business Development
           9
          10
                Louise
                                      NaN
          11
                  Julie
                                     Legal
          14 Kimberly
                                   Finance
          15
                Lillian
                                   Product
          18
                              Client Services
                 Diana
          19
                Donna
                                   Product
          20 Kimberly
                                   Finance
          21
                Lillian
                                   Product
          24
                              Client Services
                 Diana
          25
                                   Product
                Donna
          #Get Name and Bonus Amount of a Male employee with min BonusAmt
          df[(df.Gender == 'Male')][['Name', 'BonusAmt']].min()
```

```
Brandon
         Name
Out[19]:
         BonusAmt
                     1402.94556
         dtype: object
In [20]: #Group By Gender - Average Salary
         df.groupby('Gender')['Salary'].mean()
         Gender
Out[20]:
         Female
                    91192.416667
         Male
                   100226.000000
         Name: Salary, dtype: float64
In [21]:
         df.drop('Last Login Time', axis=1)
```

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	Name	Gender	Start Date	Salary	Bonus	Senior Management	Team	BonusAmt
0	Douglas	Male	08-06-1993	97308.0	6.945	True	Marketing	6758.04060
1	Thomas	Ma l e	3/31/1996	61933.0	4.170	True	NaN	2582.60610
2	Maria	Female	4/23/1993	130590.0	11.858	False	Finance	15485.36220
3	Jerry	Ma l e	03-04-2005	NaN	9.340	True	True Finance	
4	Larry	Male	1/24/1998	101004.0	1.389	True	Client Services	1402.94556
5	Dennis	Male	4/18/1987	115163.0	10.125	False	Legal	11660.25375
6	Ruby	Female	8/17/1987	65476.0	10.012	True	Product	6555.45712
7	NaN	Female	7/20/2015	45906.0	11.598	NaN	Finance	5324.17788
8	Angela	Female	11/22/2005	NaN	18.523	True	Engineering	NaN
9	Frances	Female	08-08-2002	139852.0	7.524	True	True Business Development	
10	Louise	Female	08-12-1980	63241.0	15.132	True NaN		9569.62812
11	Julie	Female	10/26/1997	102508.0	12.637	True	True Legal	
12	Brandon	Male	12-01-1980	112807.0	17.492	True	True Human Resources	
13	Gary	Ma l e	1/27/2008	109831.0	5.831	False	Sales	6404.24561
14	Kimberly	Female	1/14/1999	NaN	14.543	True	Finance	NaN
15	Lillian	Female	06-05-2016	59414.0	1.256	False	Product	746.23984
16	Jeremy	Male	9/21/2010	90370.0	7.369	False	Human Resources	6659.36530
17	Shawn	Male	12-07-1986	111737.0	6.414	False	Product	7166.81118
18	Diana	Female	10/23/1981	132940.0	19.082	False	Client Services	25367.61080
19	Donna	Female	7/22/2010	81014.0	1.894	False	Product	1534.40516
20	Kimberly	Female	1/14/1999	NaN	14.543	True	Finance	NaN
21	Lillian	Female	06-05-2016	59414.0	1.256	False	Product	746.23984
22	Jeremy	Male	9/21/2010	90370.0	7.369	False	Human Resources	6659.36530
23	Shawn	Male	12-07-1986	111737.0	6.414	False	Product	7166.81118
24	Diana	Female	10/23/1981	132940.0	19.082	False	Client Services	25367.61080
25	Donna	Female	7/22/2010	81014.0	1.894	False	Product	1534.40516

```
In [22]: df = df.loc[df['Name']!='Donna']
In [23]: df
```

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	Name	Gender	Start Date	Last Login Time	Salary	Bonus	Senior Management	Team	BonusAmt
0	Douglas	Male	08-06-1993	12:42 PM	97308.0	6.945	True	Marketing	6758.04060
1	Thomas	Male	3/31/1996	6:53 AM	61933.0	4.170	True	NaN	2582.60610
2	Maria	Female	4/23/1993	11:17 AM	130590.0	11.858	False	Finance	15485.36220
3	Jerry	Ma l e	03-04-2005	1:00 PM	NaN	9.340	True	Finance	NaN
4	Larry	Male	1/24/1998	4:47 PM	101004.0	1.389	True	Client Services	1402.94556
5	Dennis	Male	4/18/1987	1:35 AM	115163.0	10.125	False	Legal	11660.25375
6	Ruby	Female	8/17/1987	4:20 PM	65476.0	10.012	True	Product	6555.45712
7	NaN	Female	7/20/2015	10:43 AM	45906.0	11.598	NaN	Finance	5324.17788
8	Angela	Female	11/22/2005	6:29 AM	NaN	18.523	True	Engineering	NaN
9	Frances	Female	08-08-2002	6:51 AM	139852.0	7.524	True	Business Development	10522,46448
10	Louise	Female	08-12-1980	9:01 AM	63241.0	15.132	True	NaN	9569.62812
11	Julie	Female	10/26/1997	3:19 PM	102508.0	12.637	True	Legal	12953.93596
12	Brandon	Male	12-01-1980	1:08 AM	112807.0	17.492	True	Human Resources	19732,20044
13	Gary	Ma l e	1/27/2008	11:40 PM	109831.0	5.831	False	Sales	6404.24561
14	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance	NaN
15	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product	746.23984
16	Jeremy	Ma l e	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources	6659.36530
17	Shawn	Ma l e	12-07-1986	7:45 PM	111737.0	6.414	False	Product	7166.81118
18	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services	25367.61080
20	Kimberly	Female	1/14/1999	7:13 AM	NaN	14.543	True	Finance	NaN
21	Lillian	Female	06-05-2016	6:09 AM	59414.0	1.256	False	Product	746.23984
22	Jeremy	Male	9/21/2010	5:56 AM	90370.0	7.369	False	Human Resources	6659.36530
23	Shawn	Male	12-07-1986	7:45 PM	111737.0	6.414	False	Product	7166.81118
24	Diana	Female	10/23/1981	10:27 AM	132940.0	19.082	False	Client Services	25367.61080

```
In [26]: pivot_table = df.pivot_table(index = 'Gender',columns=['Team'],aggfunc = 'count')
pivot_table
```

Out[26]:	Bonus	BonusAmt	Senior
	bonus	bonusami	Management

Team	Business Development	Client Services	Engineering	Finance	Human Resources	Legal	Marketing	Product	Sales	Business Development	•••	Sales	Bu: Develop
Gender													
Female	1.0	2.0	1.0	4.0	NaN	1.0	NaN	3.0	NaN	1.0	•••	NaN	
Male	NaN	1.0	NaN	1.0	3.0	1.0	1.0	2.0	1.0	NaN		1.0	

2 rows × 63 columns

In []:

In [28]: pivot_table.to_excel("D:\\bizschoolpython\\Pivot_Table_Team_Gender.xlsx")