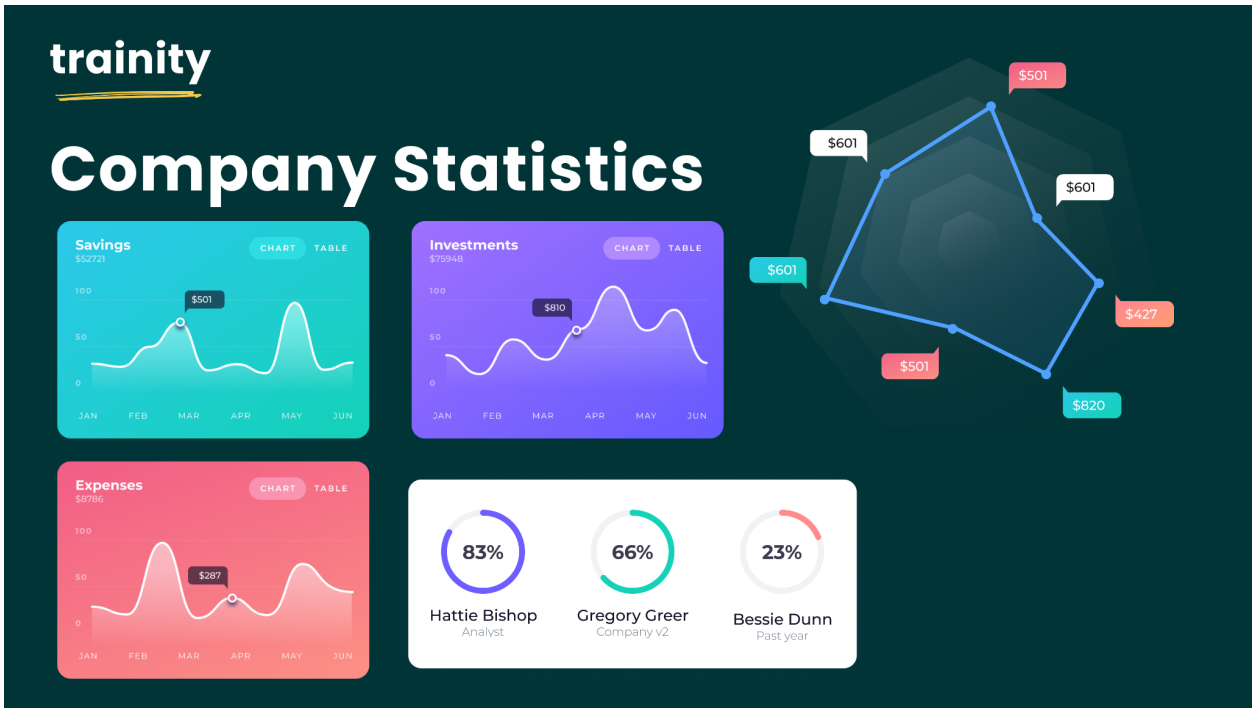
Hiring Process Analytics



By Aayushi Singh

Project Description

Hiring process is the fundamental and the most important function of a company. Here, the MNCs get to know about the major underlying trends about the hiring process. Trends such as- number of rejections, number of interviews, types of jobs, vacancies etc. are important for a company to analyse before hiring freshers or any other individual.

Approach

Properly Analyze the Dataset understanding in the data anomaly according to the dataset then performing data analysis of the data and finding values accordingly

The dataset :
https://docs.google.com/spreadsheets/d/1gAq5sK8L2e7rCP0O0KaNo7gqx6tfnVQk/edit#gid=1029390730

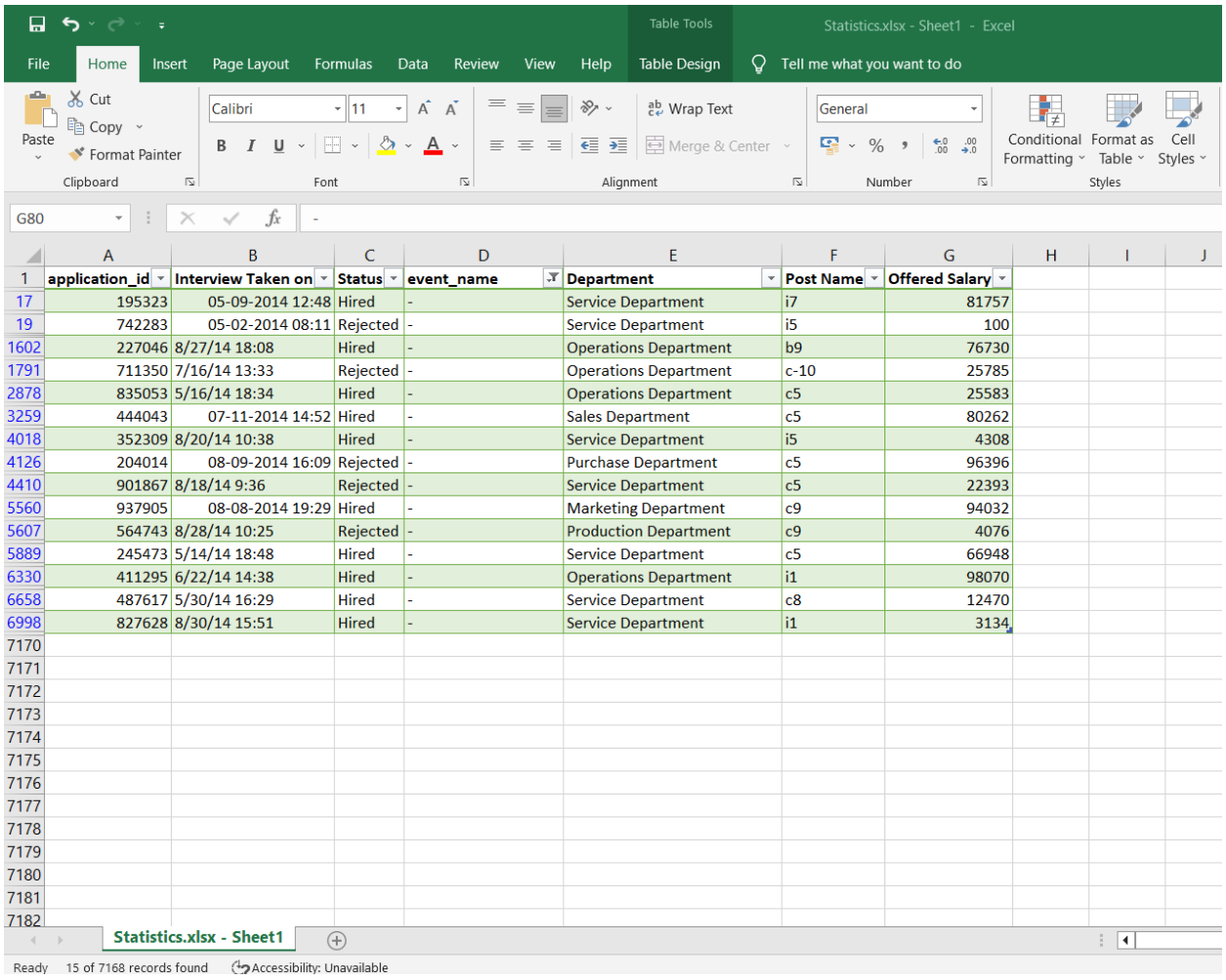
Tech stack used

Microsoft Excel
Google Sheets

Results and Insights

According to dataset the anomaly are

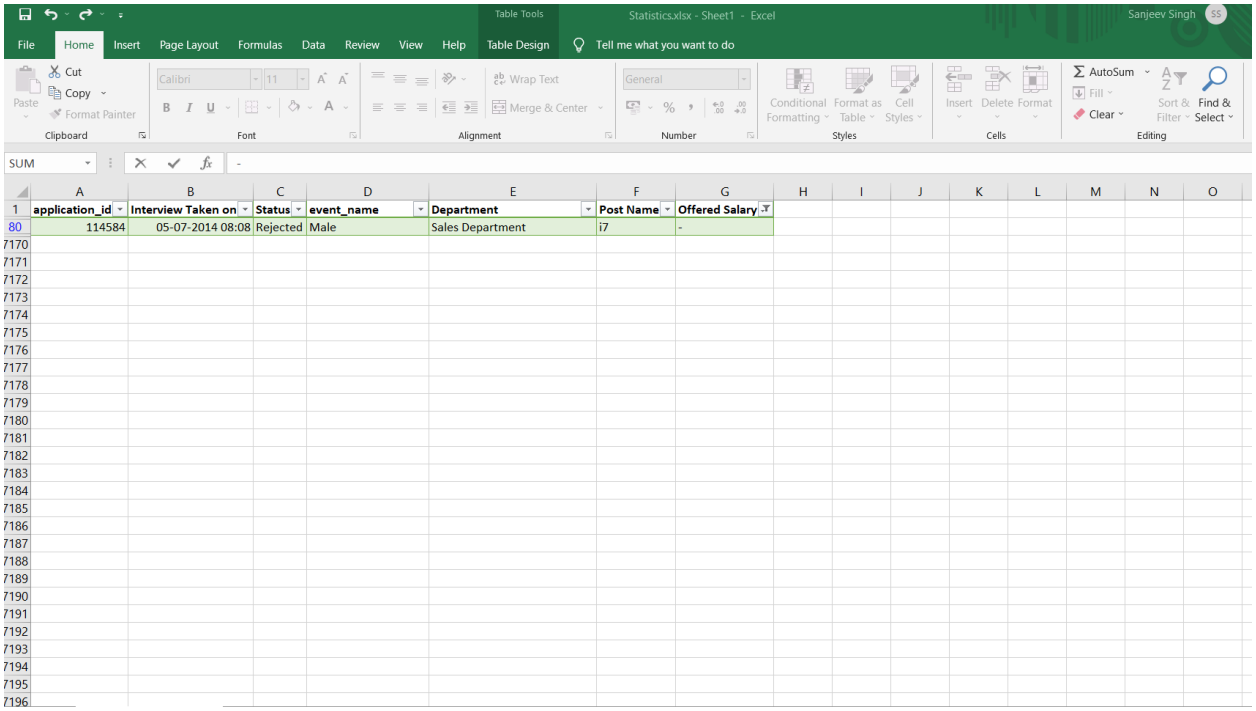
- Anomaly in event_name



Statistics.xlsx - Sheet1 - Excel

application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
195323	05-09-2014 12:48	Hired	-	Service Department	i7	81757
742283	05-02-2014 08:11	Rejected	-	Service Department	i5	100
227046	8/27/14 18:08	Hired	-	Operations Department	b9	76730
711350	7/16/14 13:33	Rejected	-	Operations Department	c-10	25785
835053	5/16/14 18:34	Hired	-	Operations Department	c5	25583
444043	07-11-2014 14:52	Hired	-	Sales Department	c5	80262
352309	8/20/14 10:38	Hired	-	Service Department	i5	4308
204014	08-09-2014 16:09	Rejected	-	Purchase Department	c5	96396
901867	8/18/14 9:36	Rejected	-	Service Department	c5	22393
937905	08-08-2014 19:29	Hired	-	Marketing Department	c9	94032
564743	8/28/14 10:25	Rejected	-	Production Department	c9	4076
245473	5/14/14 18:48	Hired	-	Service Department	c5	66948
411295	6/22/14 14:38	Hired	-	Operations Department	i1	98070
487617	5/30/14 16:29	Hired	-	Service Department	c8	12470
827628	8/30/14 15:51	Hired	-	Service Department	i1	3134

- Anomaly in Offered_salary



	A	B	C	D	E	F	G
1	application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
80	114584	05-07-2014 08:08	Rejected	Male	Sales Department	i7	-
7170							
7171							
7172							
7173							
7174							
7175							
7176							
7177							
7178							
7179							
7180							
7181							
7182							
7183							
7184							
7185							
7186							
7187							
7188							
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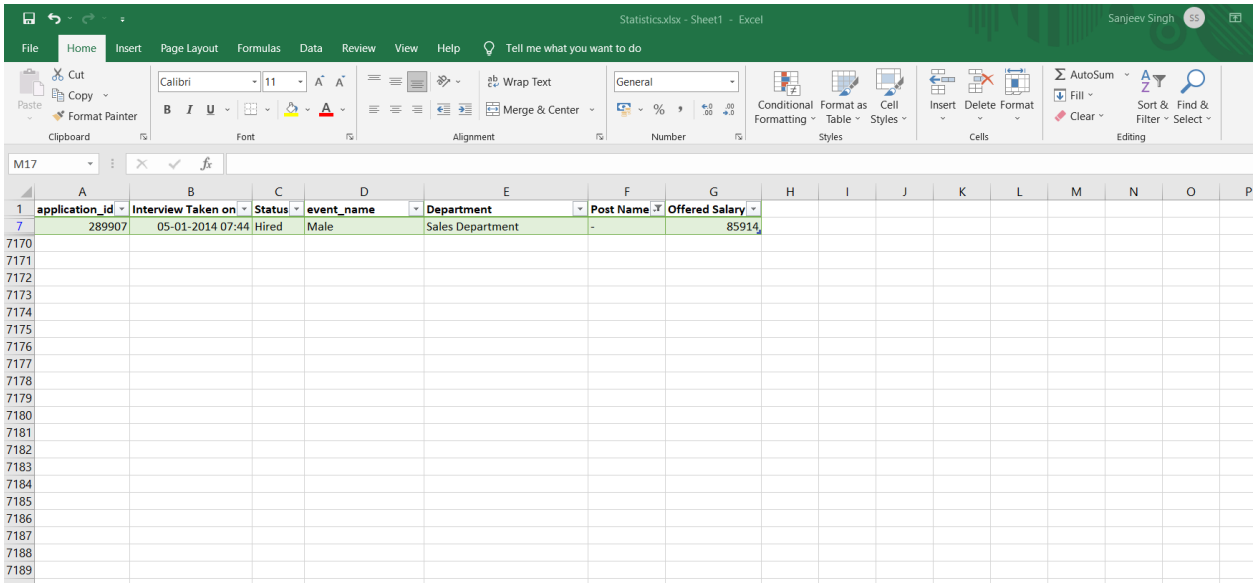
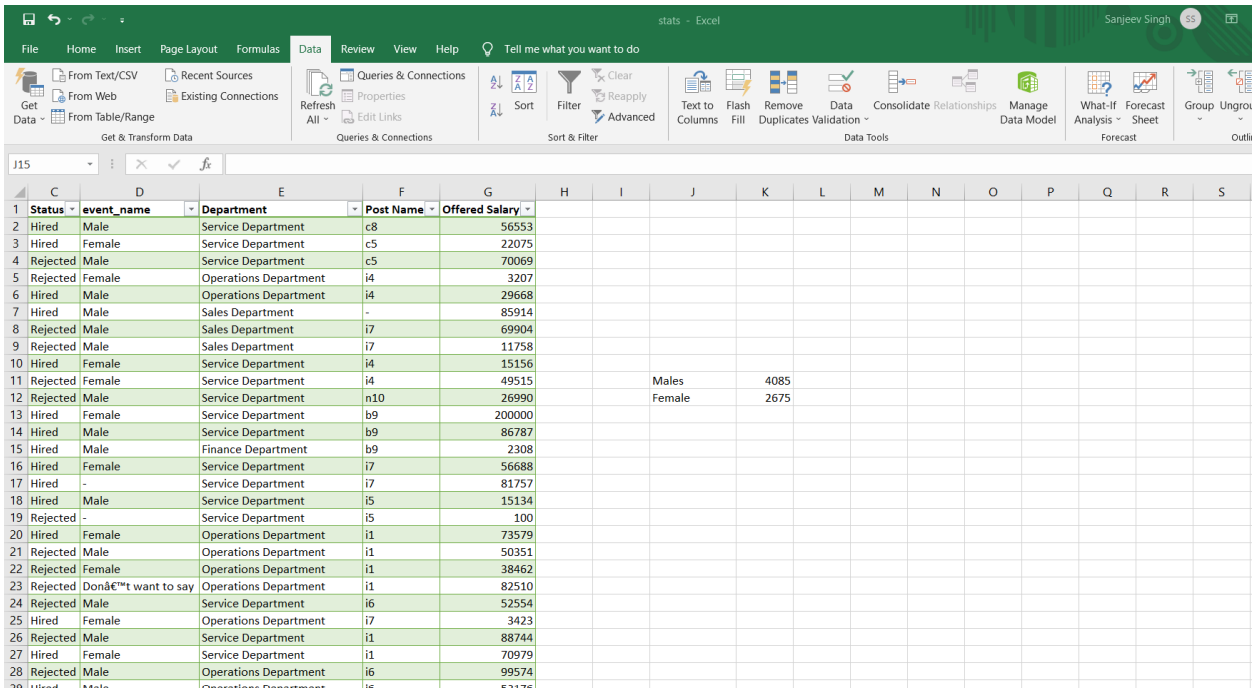
7190							
7191							
7192							
7193							
7194							
7195							
7196							

- Anomaly in Post name



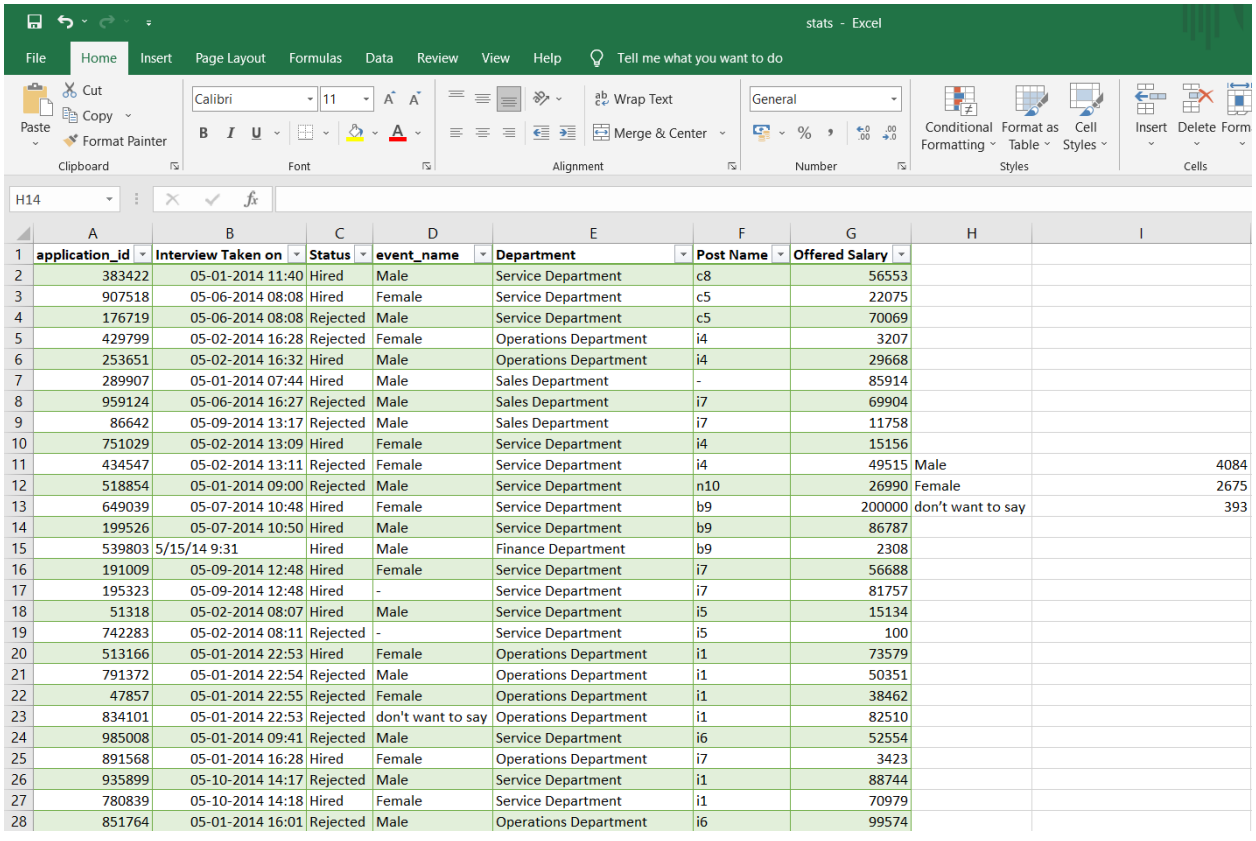
	A	B	C	D	E	F	G
1	application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
7	289907	05-01-2014 07:44	Hired	Male	Sales Department	-	85914

1. **Hiring:** Process of intaking of people into an organization for different kinds of positions.
   Your task: How many males and females are Hired ?



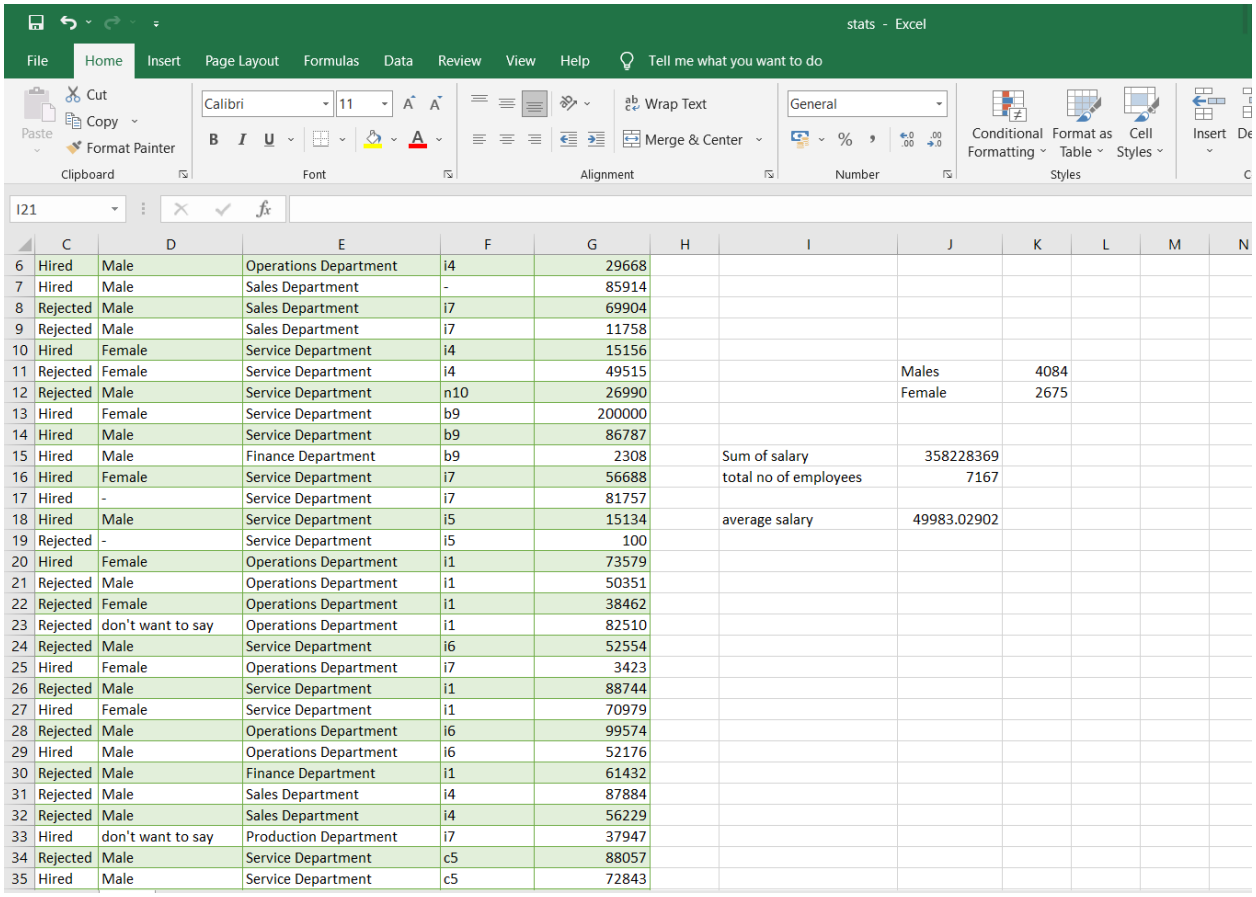
	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Status	event_name	Department	Post Name	Offered Salary												
2	Hired	Male	Service Department	c8	56553												
3	Hired	Female	Service Department	c5	22075												
4	Rejected	Male	Service Department	c5	70069												
5	Rejected	Female	Operations Department	i4	3207												
6	Hired	Male	Operations Department	i4	29668												
7	Hired	Male	Sales Department	-	85914												
8	Rejected	Male	Sales Department	i7	69904												
9	Rejected	Male	Sales Department	i7	11758												
10	Hired	Female	Service Department	i4	15156												
11	Rejected	Female	Service Department	i4	49515			Males	4085								
12	Rejected	Male	Service Department	n10	26990			Female	2675								
13	Hired	Female	Service Department	b9	200000												
14	Hired	Male	Service Department	b9	86787												
15	Hired	Male	Finance Department	b9	2308												
16	Hired	Female	Service Department	i7	56688												
17	Hired	-	Service Department	i7	81757												
18	Hired	Male	Service Department	i5	15134												
19	Rejected	-	Service Department	i5	100												
20	Hired	Female	Operations Department	i1	73579												
21	Rejected	Male	Operations Department	i1	50351												
22	Rejected	Female	Operations Department	i1	38462												
23	Rejected	Donâ€™t want to say	Operations Department	i1	82510												
24	Rejected	Male	Service Department	i6	52554												
25	Hired	Female	Operations Department	i7	3423												
26	Rejected	Male	Service Department	i1	88744												
27	Hired	Female	Service Department	i1	70979												
28	Rejected	Male	Operations Department	i6	99574												

Including dont want to say



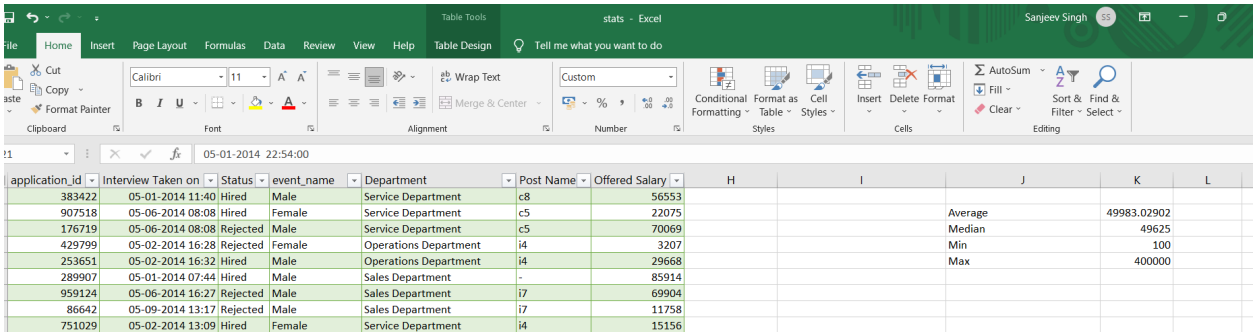
	A	B	C	D	E	F	G	H	I
1	application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary		
2	383422	05-01-2014 11:40	Hired	Male	Service Department	c8	56553		
3	907518	05-06-2014 08:08	Hired	Female	Service Department	c5	22075		
4	176719	05-06-2014 08:08	Rejected	Male	Service Department	c5	70069		
5	429799	05-02-2014 16:28	Rejected	Female	Operations Department	i4	3207		
6	253651	05-02-2014 16:32	Hired	Male	Operations Department	i4	29668		
7	289907	05-01-2014 07:44	Hired	Male	Sales Department	-	85914		
8	959124	05-06-2014 16:27	Rejected	Male	Sales Department	i7	69904		
9	86642	05-09-2014 13:17	Rejected	Male	Sales Department	i7	11758		
10	751029	05-02-2014 13:09	Hired	Female	Service Department	i4	15156		
11	434547	05-02-2014 13:11	Rejected	Female	Service Department	i4	49515	Male	4084
12	518854	05-01-2014 09:00	Rejected	Male	Service Department	n10	26990	Female	2675
13	649039	05-07-2014 10:48	Hired	Female	Service Department	b9	200000	don't want to say	393
14	199526	05-07-2014 10:50	Hired	Male	Service Department	b9	86787		
15	539803	5/15/14 9:31	Hired	Male	Finance Department	b9	2308		
16	191009	05-09-2014 12:48	Hired	Female	Service Department	i7	56688		
17	195323	05-09-2014 12:48	Hired	-	Service Department	i7	81757		
18	51318	05-02-2014 08:07	Hired	Male	Service Department	i5	15134		
19	742283	05-02-2014 08:11	Rejected	-	Service Department	i5	100		
20	513166	05-01-2014 22:53	Hired	Female	Operations Department	i1	73579		
21	791372	05-01-2014 22:54	Rejected	Male	Operations Department	i1	50351		
22	47857	05-01-2014 22:55	Rejected	Female	Operations Department	i1	38462		
23	834101	05-01-2014 22:53	Rejected	don't want to say	Operations Department	i1	82510		
24	985008	05-01-2014 09:41	Rejected	Male	Service Department	i6	52554		
25	891568	05-01-2014 16:28	Hired	Female	Operations Department	i7	3423		
26	935899	05-10-2014 14:17	Rejected	Male	Service Department	i1	88744		
27	780839	05-10-2014 14:18	Hired	Female	Service Department	i1	70979		
28	851764	05-01-2014 16:01	Rejected	Male	Operations Department	i6	99574		

2. **Average Salary:** Adding all the salaries for a select group of employees and then dividing the sum by the number of employees in the group.
   Your task: What is the average salary offered in this company ?



	C	D	E	F	G	H	I	J	K	L	M	N
6	Hired	Male	Operations Department	i4	29668							
7	Hired	Male	Sales Department	-	85914							
8	Rejected	Male	Sales Department	i7	69904							
9	Rejected	Male	Sales Department	i7	11758							
10	Hired	Female	Service Department	i4	15156							
11	Rejected	Female	Service Department	i4	49515			Males	4084			
12	Rejected	Male	Service Department	n10	26990			Female	2675			
13	Hired	Female	Service Department	b9	200000							
14	Hired	Male	Service Department	b9	86787							
15	Hired	Male	Finance Department	b9	2308		Sum of salary	358228369				
16	Hired	Female	Service Department	i7	56688		total no of employees	7167				
17	Hired	-	Service Department	i7	81757							
18	Hired	Male	Service Department	i5	15134		average salary	49983.02902				
19	Rejected	-	Service Department	i5	100							
20	Hired	Female	Operations Department	i1	73579							
21	Rejected	Male	Operations Department	i1	50351							
22	Rejected	Female	Operations Department	i1	38462							
23	Rejected	don't want to say	Operations Department	i1	82510							
24	Rejected	Male	Service Department	i6	52554							
25	Hired	Female	Operations Department	i7	3423							
26	Rejected	Male	Service Department	i1	88744							
27	Hired	Female	Service Department	i1	70979							
28	Rejected	Male	Operations Department	i6	99574							
29	Hired	Male	Operations Department	i6	52176							
30	Rejected	Male	Finance Department	i1	61432							
31	Rejected	Male	Sales Department	i4	87884							
32	Rejected	Male	Sales Department	i4	56229							
33	Hired	don't want to say	Production Department	i7	37947							
34	Rejected	Male	Service Department	c5	88057							
35	Hired	Male	Service Department	c5	72843							

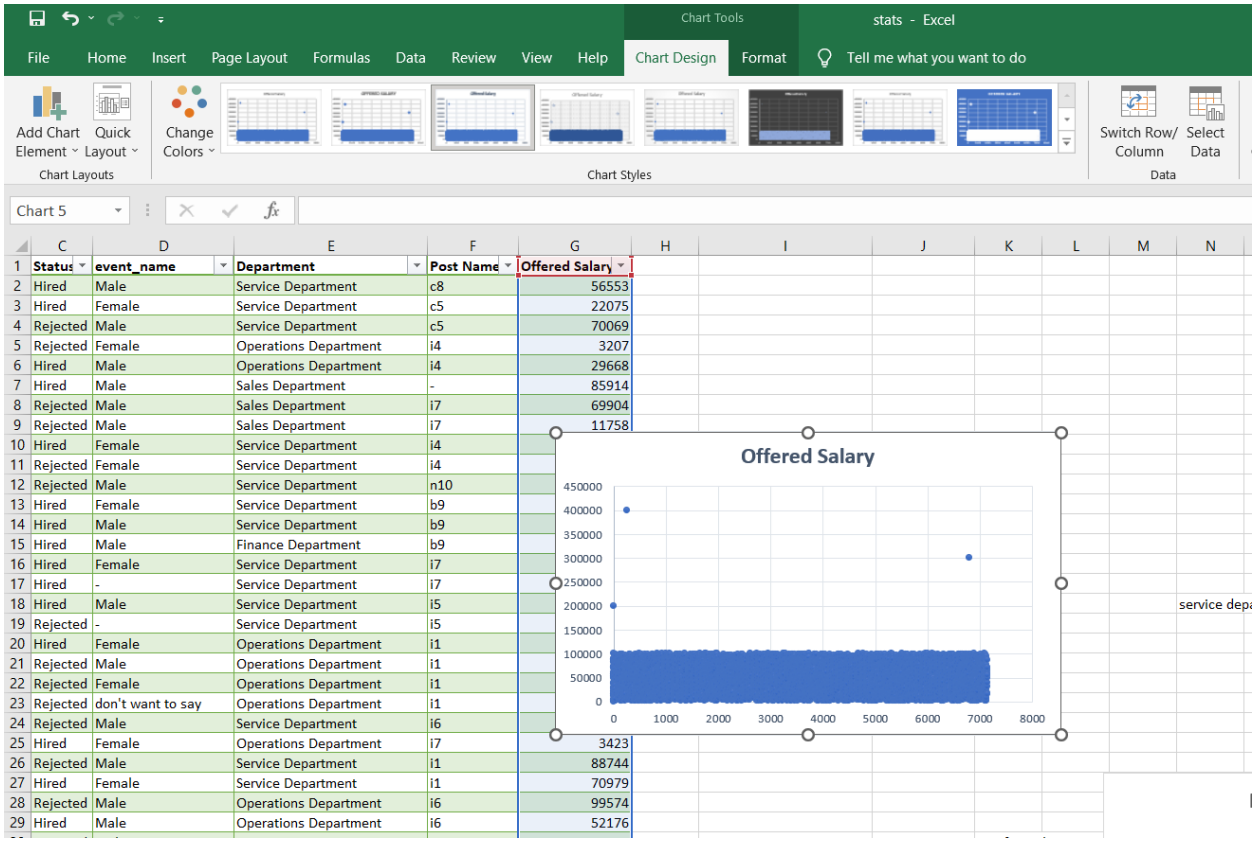
Analysis



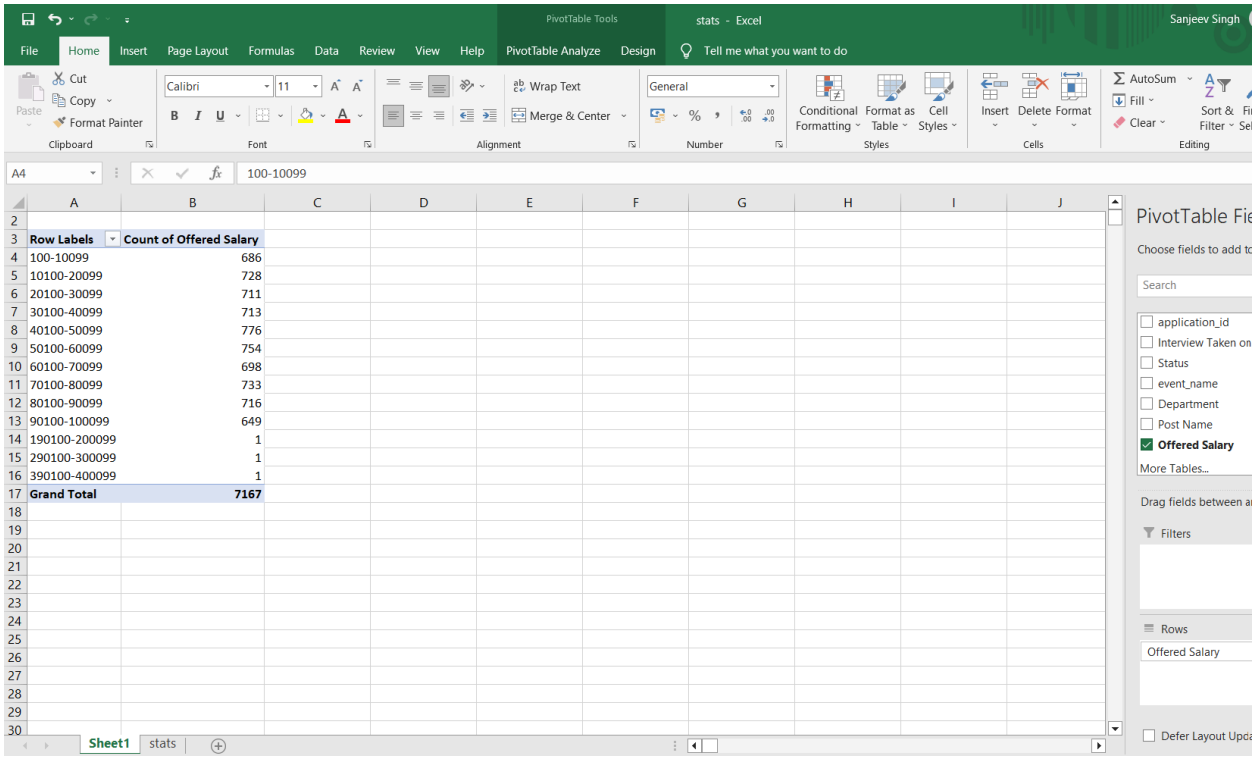
application_id	Interview Taken on	Status	event_name	Department	Post Name	Offered Salary	H	I	J	K	L
383422	05-01-2014 11:40	Hired	Male	Service Department	c8	56553					
907518	05-06-2014 08:08	Hired	Female	Service Department	c5	22075			Average	49983.02902	
176719	05-06-2014 08:08	Rejected	Male	Service Department	c5	70069			Median	49625	
429799	05-02-2014 16:28	Rejected	Female	Operations Department	i4	3207			Min	100	
253651	05-02-2014 16:32	Hired	Male	Operations Department	i4	29668			Max	400000	
289907	05-01-2014 07:44	Hired	Male	Sales Department	-	85914					
959124	05-06-2014 16:27	Rejected	Male	Sales Department	i7	69904					
86642	05-09-2014 13:17	Rejected	Male	Sales Department	i7	11758					
751029	05-02-2014 13:09	Hired	Female	Service Department	i4	15156					

Insight : we can find either by using average function or first finding sum of salary , then count of application_id(for no of people) and divide it

3. **Class Intervals:** The class interval is the difference between the upper class limit and the lower class limit.
   Your task: Draw the class intervals for salary in the company ?

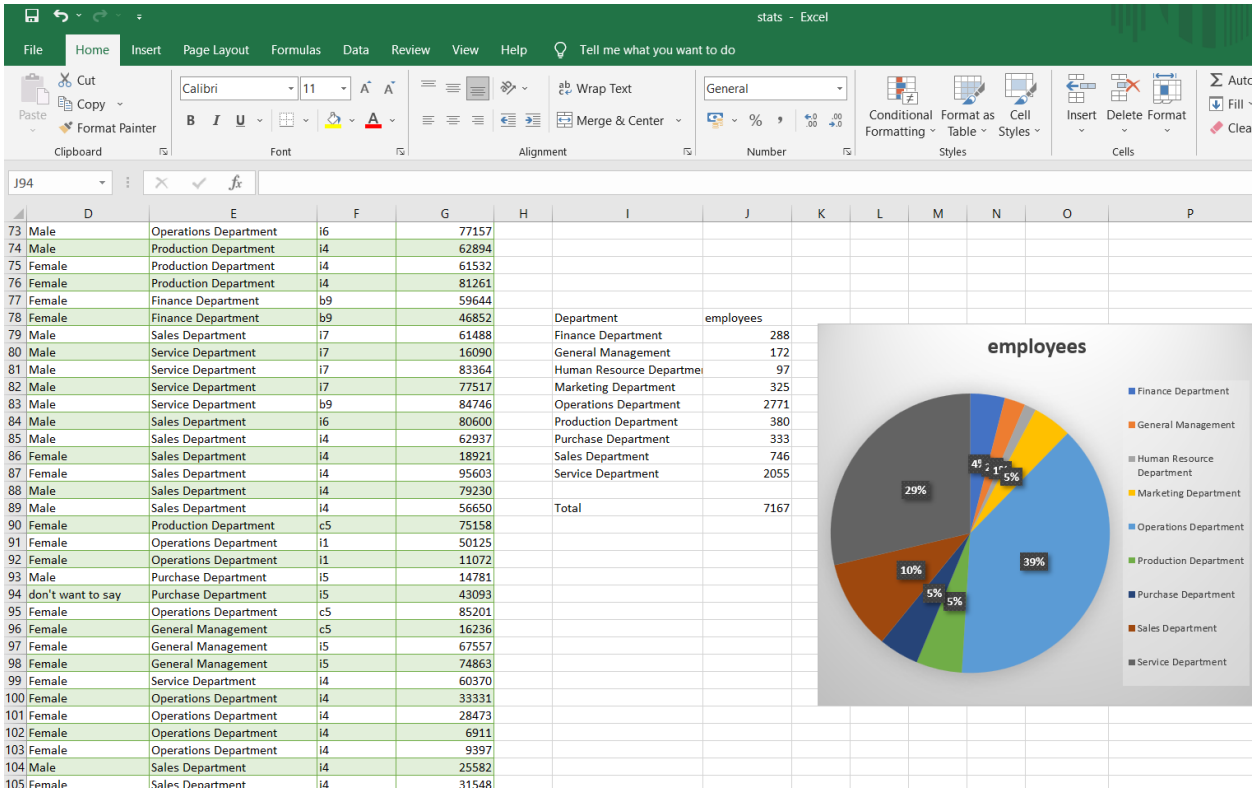


	C	D	E	F	G
1	Status	event_name	Department	Post Name	Offered Salary
2	Hired	Male	Service Department	c8	56553
3	Hired	Female	Service Department	c5	22075
4	Rejected	Male	Service Department	c5	70069
5	Rejected	Female	Operations Department	i4	3207
6	Hired	Male	Operations Department	i4	29668
7	Hired	Male	Sales Department	-	85914
8	Rejected	Male	Sales Department	i7	69904
9	Rejected	Male	Sales Department	i7	11758
10	Hired	Female	Service Department	i4	
11	Rejected	Female	Service Department	i4	
12	Rejected	Male	Service Department	n10	
13	Hired	Female	Service Department	b9	
14	Hired	Male	Service Department	b9	
15	Hired	Male	Finance Department	b9	
16	Hired	Female	Service Department	i7	
17	Hired	-	Service Department	i7	
18	Hired	Male	Service Department	i5	
19	Rejected	-	Service Department	i5	
20	Hired	Female	Operations Department	i1	
21	Rejected	Male	Operations Department	i1	
22	Rejected	Female	Operations Department	i1	
23	Rejected	don't want to say	Operations Department	i1	
24	Rejected	Male	Service Department	i6	
25	Hired	Female	Operations Department	i7	3423
26	Rejected	Male	Service Department	i1	88744
27	Hired	Female	Service Department	i1	70979
28	Rejected	Male	Operations Department	i6	99574
29	Hired	Male	Operations Department	i6	52176



Insight: we use pivot table to create range for the offered salary each of having a difference of 1000 and with scatterplot it helps to detect anomaly in the values if existed

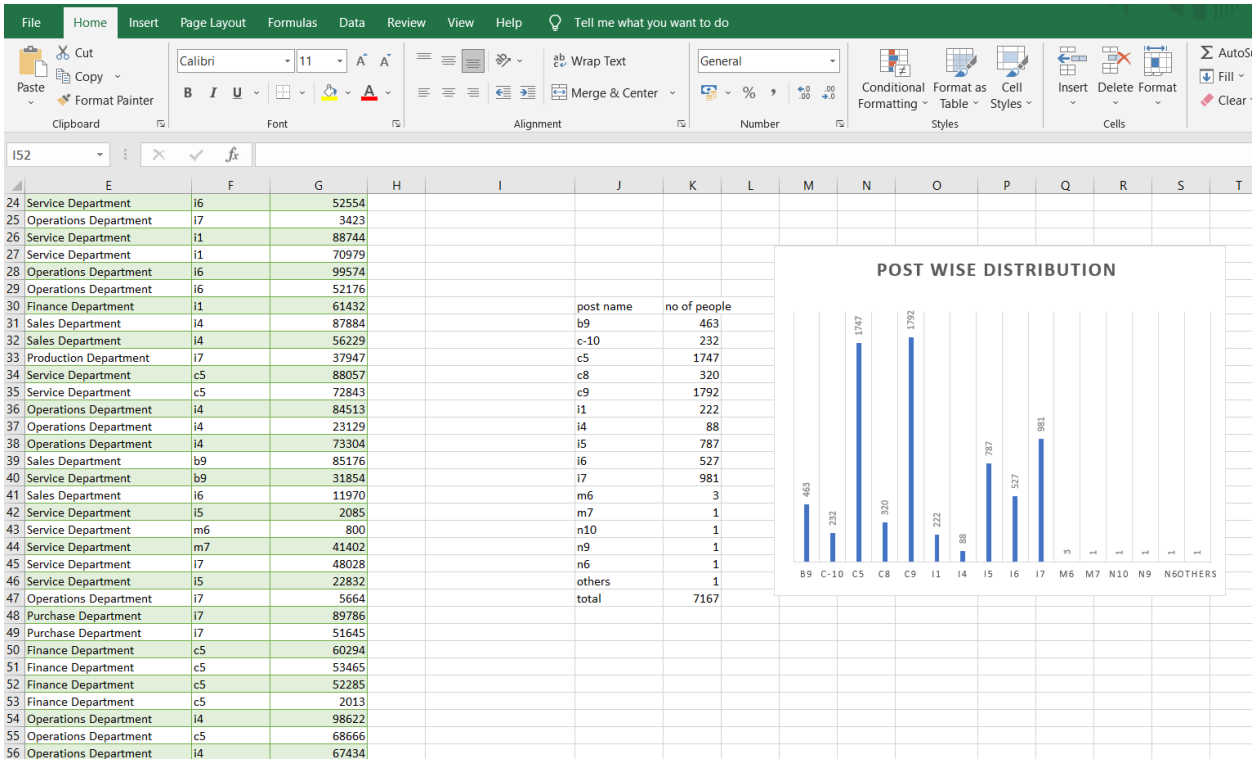
4. **Charts and Plots:** This is one of the most important part of analysis to visualize the data.
   Your task: Draw Pie Chart / Bar Graph (or any other graph) to show proportion of people working different department ?



	D	E	F	G	H	I	J	K	L	M	N	O	P
73	Male	Operations Department	i6	77157									
74	Male	Production Department	i4	62894									
75	Female	Production Department	i4	61532									
76	Female	Production Department	i4	81261									
77	Female	Finance Department	b9	59644									
78	Female	Finance Department	b9	46852		Department	employees						
79	Male	Sales Department	i7	61488		Finance Department	288						
80	Male	Service Department	i7	16090		General Management	172						
81	Male	Service Department	i7	83364		Human Resource Departme	97						
82	Male	Service Department	i7	77517		Marketing Department	325						
83	Male	Service Department	b9	84746		Operations Department	2771						
84	Male	Sales Department	i6	80600		Production Department	380						
85	Male	Sales Department	i4	62937		Purchase Department	333						
86	Female	Sales Department	i4	18921		Sales Department	746						
87	Female	Sales Department	i4	95603		Service Department	2055						
88	Male	Sales Department	i4	79230									
89	Male	Sales Department	i4	56650		Total	7167						
90	Female	Production Department	c5	75158									
91	Female	Operations Department	i1	50125									
92	Female	Operations Department	i1	11072									
93	Male	Purchase Department	i5	14781									
94	don't want to say	Purchase Department	i5	43093									
95	Female	Operations Department	c5	85201									
96	Female	General Management	c5	16236									
97	Female	General Management	i5	67557									
98	Female	General Management	i5	74863									
99	Female	Service Department	i4	60370									
100	Female	Operations Department	i4	33331									
101	Female	Operations Department	i4	28473									
102	Female	Operations Department	i4	6911									
103	Female	Operations Department	i4	9397									
104	Male	Sales Department	i4	25582									
105	Female	Sales Department	i4	31548									

Insight :
Finance Department
General Management
Human Resource Department
Marketing Department
Operations Department
Production Department
Purchase Department
Sales Department
Service Department
Are the categories we use countif for category to get no of people in each department and if ever the data is change the values will automatically be changed according

5. **Charts:** Use different charts and graphs to perform the task representing the data.
   Your task: Represent different post tiers using chart/graph?



	E	F	G
24	Service Department	i6	52554
25	Operations Department	i7	3423
26	Service Department	i1	88744
27	Service Department	i1	70979
28	Operations Department	i6	99574
29	Operations Department	i6	52176
30	Finance Department	i1	61432
31	Sales Department	i4	87884
32	Sales Department	i4	56229
33	Production Department	i7	37947
34	Service Department	c5	88057
35	Service Department	c5	72843
36	Operations Department	i4	84513
37	Operations Department	i4	23129
38	Operations Department	i4	73304
39	Sales Department	b9	85176
40	Service Department	b9	31854
41	Sales Department	i6	11970
42	Service Department	i5	2085
43	Service Department	m6	800
44	Service Department	m7	41402
45	Service Department	i7	48028
46	Service Department	i5	22832
47	Operations Department	i7	5664
48	Purchase Department	i7	89786
49	Purchase Department	i7	51645
50	Finance Department	c5	60294
51	Finance Department	c5	53465
52	Finance Department	c5	52285
53	Finance Department	c5	2013
54	Operations Department	i4	98622
55	Operations Department	c5	68666
56	Operations Department	i4	67434

post name	no of people
b9	463
c-10	232
c5	1747
c8	320
c9	1792
i1	222
i4	88
i5	787
i6	527
i7	981
m6	3
m7	1
n10	1
n9	1
n6	1
others	1
total	7167

insight
post name
b9
c-10
c5
c8
c9
i1
i4
i5
i6
i7
m6
m7
n10
n9
n6
Are the categories we use countif for category to get no of people in each post and if ever the data is change the values will automatically be changed according