Subhankar Banik

UG Student at NIT Agartala
Email ID: subhankarbanik23@gmail.com
Contact: +91 8837496744

Hiring Process Analytics Report

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Overview of Data Analytics

Data analytics is the science of analyzing raw data in order to make conc;usions about that information. Techniques of data analysis can reveal trends and metrics that would otherwise be cost in the mass of information. It is important because it helps various businesses to optimize their performances in the real world. Core job of analytics is to help companies to gain insight into their customers.

Analytical thinking involves identifying and defining a problem and then solving it by using data in an organized, step by step manner.

The five key aspects to analytical thinking are:

1. Visualization
2. Strategy
3. Problem- Orientation
4. Correlation
5. Big picture and Detailed oriented thinking

Project Work on Hiring Process Analytics

A dataset of a company where the details about people who registered for a particular post in a department of this company. By using knowledge in statistics and using different formulas in excel and drawing necessary conclusions about the company.

For making this report I'm using Microsoft Excel.

Project File Link: [Statistics of Company]

Business Request:

Title	Task to perform
Hiring	How many males and females are Hired in current recruitment drive
Average Salary	Average salary offered in this company
Class Intervals	Draw the class intervals for salary in the company
Charts and Plots	Draw Pie Chart / Bar Graph (or any other graph) to show proportion of people working different departments
Charts	Represent different post tiers using chart/graph

A (Hiring)

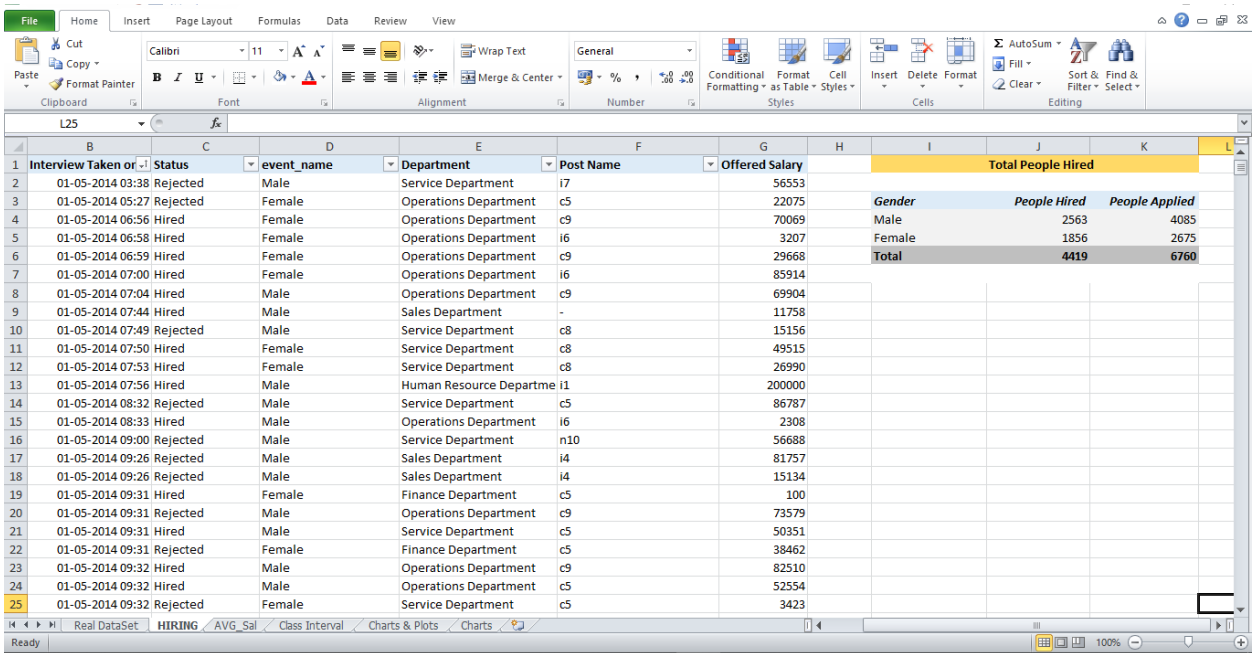
Process of intaking people into an organization for different kinds of positions. Now, I have to determine the total no. of male and female hired.

Approach: Counting no. of male and female hired by using following formulas:-

```
=COUNTIFS(D:D,"Male",C:C,"Hired")
```

```
=COUNTIFS(D:D,"Female",C:C,"Hired")
```

Output Image:



Interview Taken on	Status	event_name	Department	Post Name	Offered Salary
01-05-2014 03:38	Rejected	Male	Service Department	i7	56553
01-05-2014 05:27	Rejected	Female	Operations Department	c5	22075
01-05-2014 06:56	Hired	Female	Operations Department	c9	70069
01-05-2014 06:58	Hired	Female	Operations Department	i6	3207
01-05-2014 06:59	Hired	Female	Operations Department	c9	29668
01-05-2014 07:00	Hired	Female	Operations Department	i6	85914
01-05-2014 07:04	Hired	Male	Operations Department	c9	69904
01-05-2014 07:44	Hired	Male	Sales Department	-	11758
01-05-2014 07:49	Rejected	Male	Service Department	c8	15156
01-05-2014 07:50	Hired	Female	Service Department	c8	49515
01-05-2014 07:53	Hired	Female	Service Department	c8	26990
01-05-2014 07:56	Hired	Male	Human Resource Departme	i1	200000
01-05-2014 08:32	Rejected	Male	Service Department	c5	86787
01-05-2014 08:33	Hired	Male	Operations Department	i6	2308
01-05-2014 09:00	Rejected	Male	Service Department	n10	56688
01-05-2014 09:26	Rejected	Male	Sales Department	i4	81757
01-05-2014 09:26	Rejected	Male	Sales Department	i4	15134
01-05-2014 09:31	Hired	Female	Finance Department	c5	100
01-05-2014 09:31	Rejected	Male	Operations Department	c9	73579
01-05-2014 09:31	Hired	Male	Service Department	c5	50351
01-05-2014 09:31	Rejected	Female	Finance Department	c5	38462
01-05-2014 09:32	Hired	Male	Operations Department	c9	82510
01-05-2014 09:32	Hired	Male	Operations Department	c5	52554
01-05-2014 09:32	Rejected	Female	Service Department	c5	3423

Total People Hired

Gender	People Hired	People Applied
Male	2563	4085
Female	1856	2675
Total	4419	6760

B (Average Salary)

Average salary offered by the company to all applied candidates.

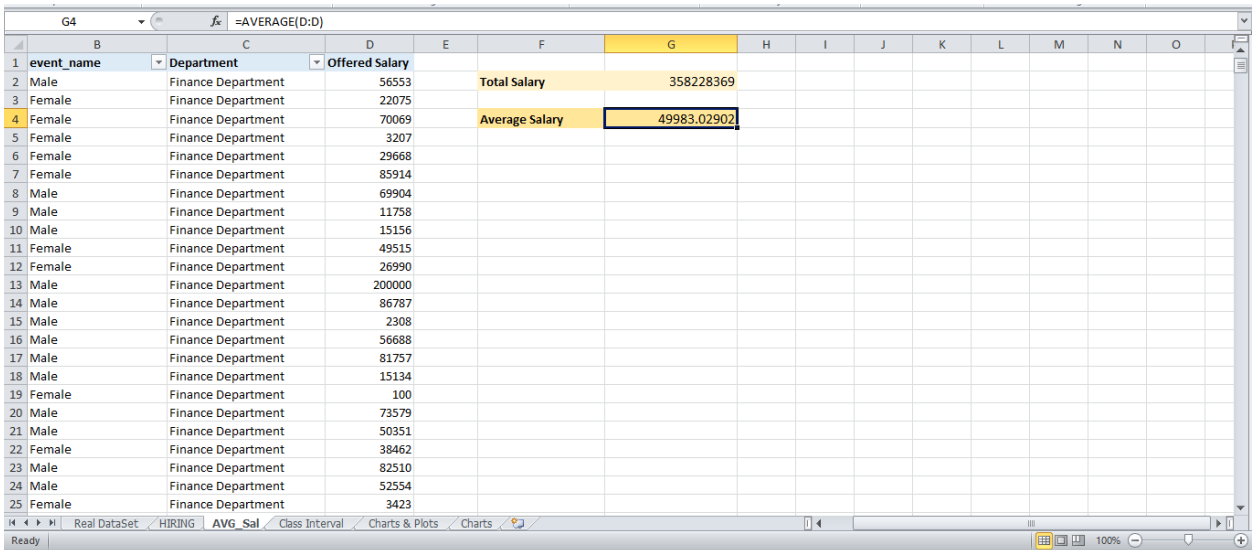
Approach: **Cleaning the data**, keeping only required datas to find the average salary offered.

Sorted Department Name alphabetically for convenience of searching.

Calculated Total Salary offered by using formula, `=SUM(D:D)`

Calculated **Average Salary** by using formula, `=AVERAGE(D:D)`

Output Image:



G4 =AVERAGE(D:D)

	B	C	D	E	F	G
1	event_name	Department	Offered Salary			
2	Male	Finance Department	56553		Total Salary	358228369
3	Female	Finance Department	22075			
4	Female	Finance Department	70069		Average Salary	49983.02902
5	Female	Finance Department	3207			
6	Female	Finance Department	29668			
7	Female	Finance Department	85914			
8	Male	Finance Department	69904			
9	Male	Finance Department	11758			
10	Male	Finance Department	15156			
11	Female	Finance Department	49515			
12	Female	Finance Department	26990			
13	Male	Finance Department	200000			
14	Male	Finance Department	86787			
15	Male	Finance Department	2308			
16	Male	Finance Department	56688			
17	Male	Finance Department	81757			
18	Male	Finance Department	15134			
19	Female	Finance Department	100			
20	Male	Finance Department	73579			
21	Male	Finance Department	50351			
22	Female	Finance Department	38462			
23	Male	Finance Department	82510			
24	Male	Finance Department	52554			
25	Female	Finance Department	3423			

Real DataSet | HIRING | AVG_Sal | Class Interval | Charts & Plots | Charts

Ready 100%

C (Class Intervals)

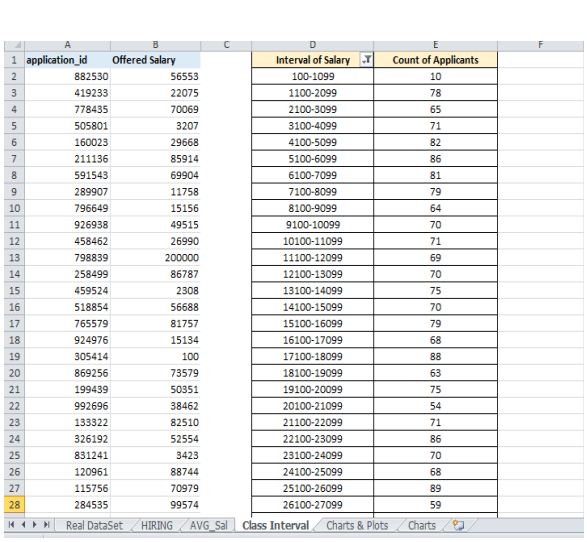
The class interval is the difference between the upper class limit and the lower class limit. Class interval of salary is to be determined for the company.

Approach: **Cleaning the data**, keeping only required datas to find the class interval of salary offered.

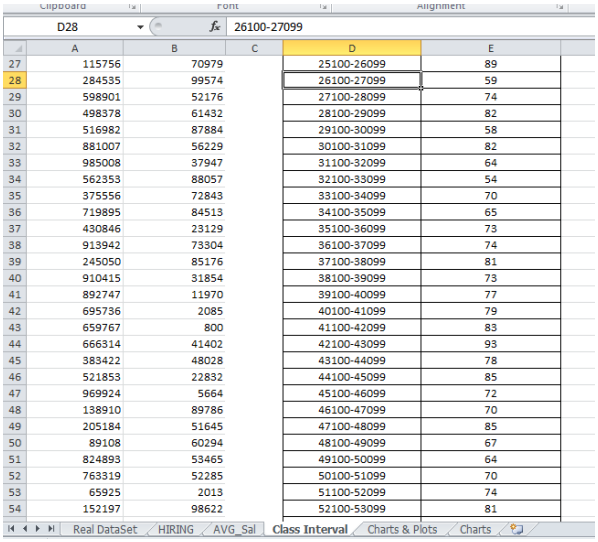
Using the **pivot table**, these class intervals will be determined. By selecting columns of 'application_id' for counting no. of applicants and 'salary' column to make the required intervals in the table. 'Salary' column is considered in row level to make interval ranges. 'Application_id' is selected in the values field to count the no. of applicants applied and what are the salary range offered.

Then accordingly, the pivot table created and interval outputs has been listed.

Output Image:

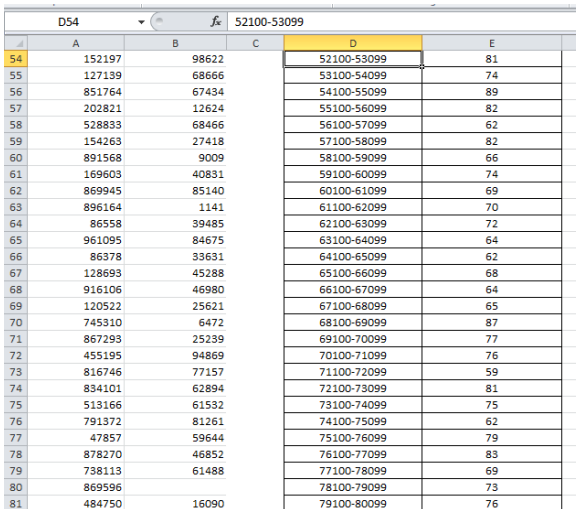


application_id	Offered Salary	Interval of Salary	Count of Applicants
882530	56553	100-1099	10
419233	22075	1100-2099	78
778435	70069	2100-3099	65
505801	3207	3100-4099	71
160023	29668	4100-5099	82
211136	85914	5100-6099	86
591543	69904	6100-7099	81
289907	11758	7100-8099	79
796649	15156	8100-9099	64
926938	49515	9100-10099	70
458462	26990	10100-11099	71
798839	200000	11100-12099	69
258499	86787	12100-13099	70
459524	2308	13100-14099	75
518854	56688	14100-15099	70
765579	81757	15100-16099	79
924976	15134	16100-17099	68
305414	100	17100-18099	88
869256	73579	18100-19099	63
199439	50351	19100-20099	75
992696	38462	20100-21099	54
133322	82510	21100-22099	71
326192	52554	22100-23099	86
831241	3423	23100-24099	70
120961	88744	24100-25099	68
115756	70979	25100-26099	89
284535	99574	26100-27099	59



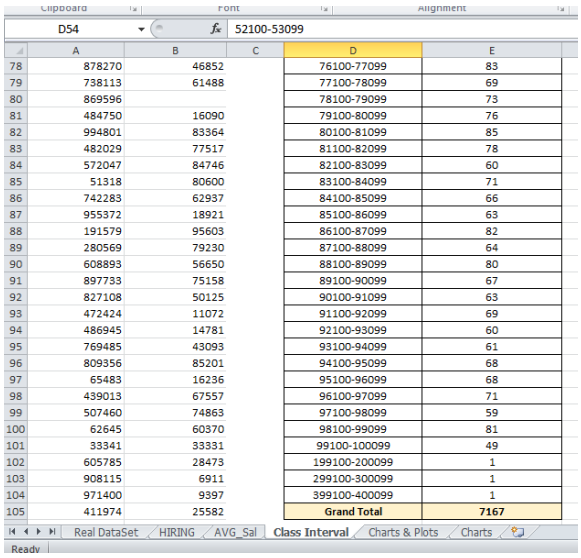
D28 = 26100-27099

115756	70979	25100-26099	89
284535	99574	26100-27099	59
598901	52176	27100-28099	74
498378	61432	28100-29099	82
516982	87884	29100-30099	58
881007	56229	30100-31099	82
985008	37947	31100-32099	64
562353	88057	32100-33099	54
375556	72843	33100-34099	70
719895	84513	34100-35099	65
430846	23129	35100-36099	73
913942	73304	36100-37099	74
245050	85176	37100-38099	81
910415	31854	38100-39099	73
892747	11970	39100-40099	77
695736	2085	40100-41099	79
659767	800	41100-42099	83
666314	41402	42100-43099	93
383422	48028	43100-44099	78
521853	22832	44100-45099	85
969924	5664	45100-46099	72
138910	89786	46100-47099	70
205184	51645	47100-48099	85
89108	60294	48100-49099	67
824893	53465	49100-50099	64
763319	52285	50100-51099	70
65925	2013	51100-52099	74
152197	98622	52100-53099	81



D54 = 52100-53099

152197	98622	52100-53099	81
127139	68666	53100-54099	74
851764	67434	54100-55099	89
202821	12624	55100-56099	82
528833	68466	56100-57099	62
154263	27418	57100-58099	82
891568	9009	58100-59099	66
169603	40831	59100-60099	74
869945	85140	60100-61099	69
896164	1141	61100-62099	70
86558	39485	62100-63099	72
961095	84675	63100-64099	64
86378	33631	64100-65099	62
128693	45288	65100-66099	68
916106	46980	66100-67099	64
120522	25621	67100-68099	65
745310	6472	68100-69099	87
867293	25239	69100-70099	77
455195	94869	70100-71099	76
816746	77157	71100-72099	59
834101	62894	72100-73099	81
513166	61532	73100-74099	75
791372	81261	74100-75099	62
47857	59644	75100-76099	79
878270	46852	76100-77099	83
738113	61488	77100-78099	69
869596		78100-79099	73
484750	16090	79100-80099	76



D54 = 52100-53099

878270	46852	76100-77099	83
738113	61488	77100-78099	69
869596		78100-79099	73
484750	16090	79100-80099	76
994801	83364	80100-81099	85
482029	77517	81100-82099	78
572047	84746	82100-83099	60
51318	80600	83100-84099	71
742283	62937	84100-85099	66
955372	18921	85100-86099	63
191579	95603	86100-87099	82
280569	79230	87100-88099	64
608893	56650	88100-89099	80
897733	75158	89100-90099	67
827108	50125	90100-91099	63
472424	11072	91100-92099	69
486945	14781	92100-93099	60
769485	43093	93100-94099	61
809356	85201	94100-95099	68
65483	16236	95100-96099	68
439013	67557	96100-97099	71
507460	74863	97100-98099	59
62645	60370	98100-99099	81
33341	33331	99100-100099	49
605785	28473	199100-200099	1
908115	6911	299100-300099	1
971400	9397	399100-400099	1
411974	25582	**Grand Total**	**7167**

D (Charts and Plots)

Here's the most important part to visualize the data. Drawing a bar graph to show the proportion of people working in different departments.

6

Approach: Cleaned the data set. From the 'Status' column only "Hired" candidates would be considered.

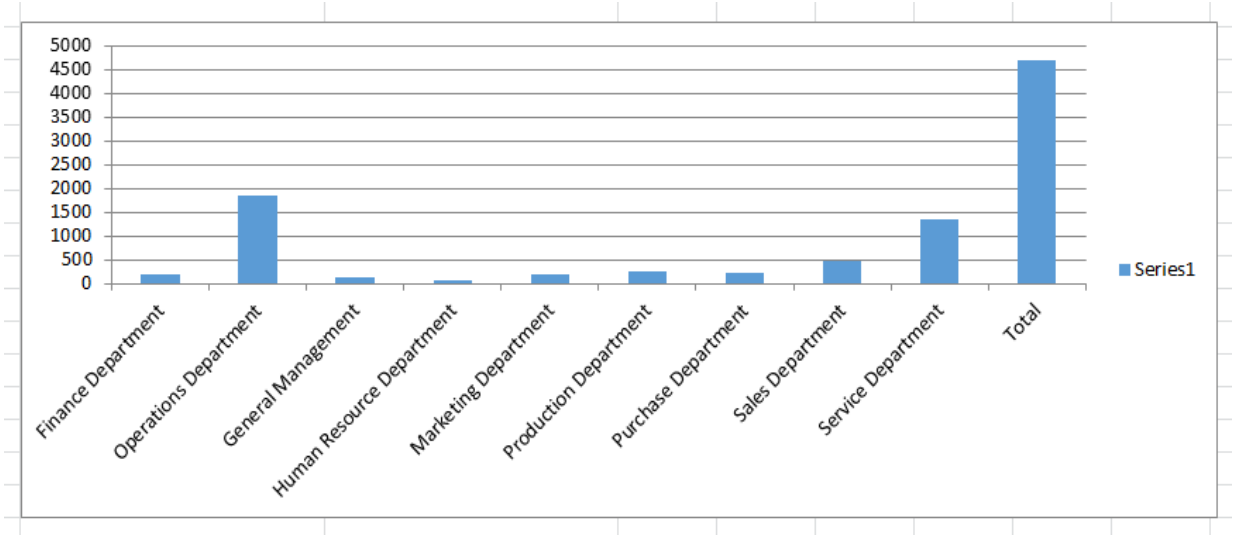
Making a table of different departments including total no. of employees working. For different departments, to count no. of candidates working, this formula is used

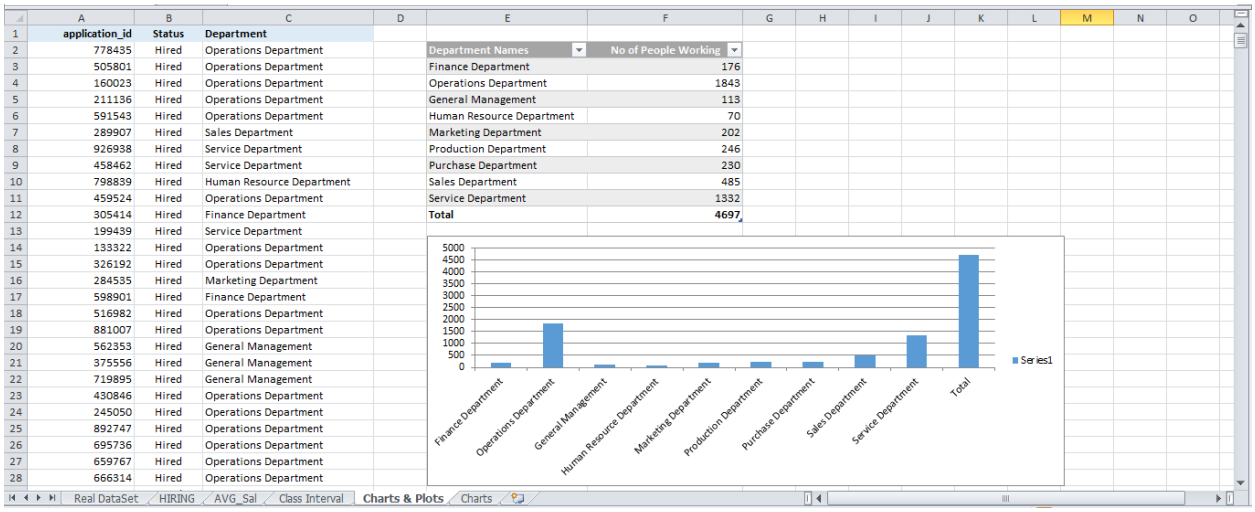
`=COUNTIFS(C:C,"Finance Department",B:B,"Hired")`, by changing the name of departments in respect of name.

Department Names	No of People Working
Finance Department	176
Operations Department	1843
General Management	113
Human Resource Department	70
Marketing Department	202
Production Department	246
Purchase Department	230
Sales Department	485
Service Department	1332
Total	**4697**

After completion of this table, by selecting it inserted a bar graph keeping in X-axis the department name and in Y-axis the number count of people working.

Output Image:





application_id	Status	Department
778435	Hired	Operations Department
505801	Hired	Operations Department
160023	Hired	Operations Department
211136	Hired	Operations Department
591543	Hired	Operations Department
289907	Hired	Sales Department
926938	Hired	Service Department
458462	Hired	Service Department
798839	Hired	Human Resource Department
459524	Hired	Operations Department
305414	Hired	Finance Department
199439	Hired	Service Department
133322	Hired	Operations Department
326192	Hired	Operations Department
284535	Hired	Marketing Department
598901	Hired	Finance Department
516982	Hired	Operations Department
881007	Hired	Operations Department
562353	Hired	General Management
375556	Hired	General Management
719895	Hired	General Management
430846	Hired	Operations Department
245050	Hired	Operations Department
892747	Hired	Operations Department
695736	Hired	Operations Department
659767	Hired	Operations Department
666314	Hired	Operations Department

Department Names	No of People Working
Finance Department	176
Operations Department	1843
General Management	113
Human Resource Department	70
Marketing Department	202
Production Department	246
Purchase Department	230
Sales Department	485
Service Department	1332
Total	4697

Real DataSet | HIRING | AVG_Sal | Class Interval | Charts & Plots | Charts

E (Charts)

Representing different post tiers using charts or graphs. It will include no. of people working against each post name.

Approach: Initially cleaning the data set to determine no. of people being hired against each post name.

Sorting the columns with status of ‘Hired’ only.

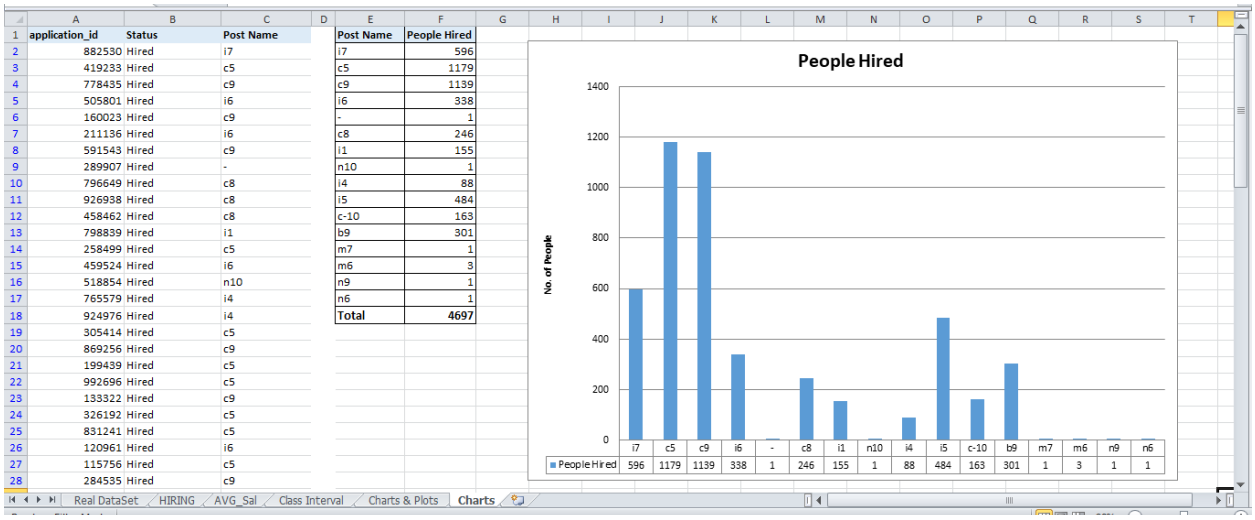
A table including the post name and count of people was made by using the formulas,

`=COUNTIFS(C:C,"i7",B:B,"Hired")`, by changing the name of the post in each case as well.

Post Name	People Hired
i7	596
c5	1179
c9	1139
i6	338
-	1
c8	246
i1	155
n10	1
i4	88
i5	484
c-10	163
b9	301
m7	1
m6	3
n9	1
n6	1
Total	**4697**

By selecting the above table, a graph has been inserted by labeling Post Name in x-axis and no. of people in y-axis.

Output Image:



application_id	Status	Post Name
882530	Hired	i7
419233	Hired	c5
778435	Hired	c9
505801	Hired	i6
160023	Hired	c9
211136	Hired	i6
591543	Hired	c9
289907	Hired	-
796649	Hired	c8
926938	Hired	c8
458462	Hired	c8
798839	Hired	i1
258499	Hired	c5
459524	Hired	i6
518854	Hired	n10
765579	Hired	i4
924976	Hired	i4
305414	Hired	c5
869256	Hired	c9
199439	Hired	c5
992696	Hired	c5
133322	Hired	c9
326192	Hired	c5
831241	Hired	c5
120961	Hired	i6
115756	Hired	c5
284535	Hired	c9

Post Name	People Hired
i7	596
c5	1179
c9	1139
i6	338
-	1
c8	246
i1	155
n10	1
i4	88
i5	484
c-10	163
b9	301
m7	1
m6	3
n9	1
n6	1
Total	4697

Conclusion:

Total Male hired = 2563

Total Female hired = 1856

Total people hired without disclosing their gender =278

Total people hired for different departments and posts = 4697

Average Salary offered = 49983.029

Submitted By

Subhankar Banik