

# DATA CLEANING & PIVOT TABLE WITH EXCEL

**By Hafis**

Excel for data analysis





# Project Goal

- To produce clean dataset using excel.
- Use Pivot Table function in excel.





# Information

Consist of two excel file :

- **Montgomery\_Fleet\_Equipment\_Inventory\_FA\_PART\_1\_START**  
(4 Column, 63 rows)
- **Montgomery\_Fleet\_Equipment\_Inventory\_FA\_PART\_2\_START**  
(3 Column, 50 rows)





# Data Cleaning

- Column widths:

Sort out the widths of all columns so that the data is clearly visible in all cells.

A	B	C	D	E	F
Departme	Departme	Equipmen	Equipment Count		
Board of	Elections	Van	1		
Board of	Elections	Off Road V	2		
Circuit	Court	SUV	1		
Communi	Cluster	Pick Up Tr	8		
Communi	Cluster	Off Road V	7		
Communi	Cluster	SUV	2		
Communi	Facilities	Sedan	1		
Communi	Facilities	Sedan	1		
Consumer	Protection	Sedan	1		
Correctio	Rehabilita	Off Road V	3		
Correctio	Rehabilita	Public Saf	1		
Correctio	Rehabilita	Public Saf	2		
Correctio	Rehabilita	SUV	3		
Correctio	Rehabilita	Pick Up Tr	1		
Correctio	Rehabilita	Van	2		

A	B	C
Department	Equipment Class	Equipment Co
Board of Elections	Van	
Board of Elections	Off Road Vehicle Equipment	
Circuit Court	SUV	
Community Engagement Cluster	Pick Up Trucks	
Community Engagement Cluster	Off Road Vehicle Equipment	
Community Engagement Cluster	SUV	
Community Use of Public Facilities	Sedan	
Consumer Protection	Sedan	
Correction and Rehabilitation	Off Road Vehicle Equipment	
Correction and Rehabilitation	Public Safety Sedan	
Correction and Rehabilitation	Public Safety SUV	
Correction and Rehabilitation	SUV	
Correction and Rehabilitation	Pick Up Trucks	
Correction and Rehabilitation	Van	
Correction and Rehabilitation	Sedan	
Correction and Rehabilitation	CUV	
County Executives Office	Sedan	
County Executives Office	Public Safety SUV	
Economic Development	SUV	
Environmental Protection	SUV	
Environmental Protection	Sedan	





# Data Cleaning

- Empty rows:

Use the Filter feature to look for blanks and remove all empty rows from the data.

Apply to the department column.

In real situation we need confirm with the other staff if there any missing value rather than delete it .



☐ Fire and  
☐ General  
☐ Health and Human  
☒ (Blanks)

	A	B	
1	Department	Department	Equipr
2	Board of	Elections	Van
3	Board of	Elections	Off Ro
4	Circuit	Court	SUV
5	Community Engagement	Cluster	Pick U
6	Community Engagement	Cluster	Off Ro
7	Community Engagement	Cluster	SUV
8			
9	Community Use of Public	Facilities	Sedan
10	Community Use of Public	Facilities	Sedan

	A	
1	Department	Equipment
2	Board of Elections	Van
3	Board of Elections	Off Road V
4	Circuit Court	SUV
5	Community Engagement Cluster	Pick Up Tru
6	Community Engagement Cluster	Off Road V
7	Community Engagement Cluster	SUV
8	Community Use of Public Facilities	Sedan
9	Consumer Protection	Sedan
10	Correction and Rehabilitation	Off Road V

# Data Cleaning

- Duplicate records:

Use either the Conditional Formatting or Remove Duplicates feature to look for and remove any duplicated records from the data.



54	Health and Human
55	Health and Human
56	Health and Human
57	Health and Human
58	



50	Health and Human
51	Health and Human
52	Health and Human
53	Health and Human
54	

# Data Cleaning

- Spelling:

The original source file data has not been checked for errors in the spelling. Check for spelling mistakes in the data and fix them.

abc  
✓  
Spelling

21	Enviromnental
22	Enviromnental
23	Enviromnental
24	Enviromnental
25	Enviromnental
26	Enviromnental



21	Environmental
22	Environmental
23	Environmental
24	Environmental
25	Environmental
26	Environmental

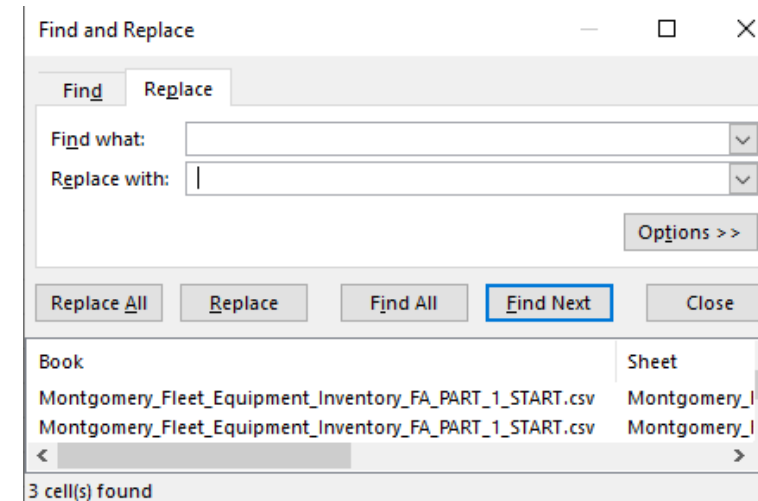


# Data Cleaning

- Whitespace:

Use the Find and Replace feature to remove all double-spaces from the data.

2 Space replace with 1 space



SUV  
Pick Up Trucks  
Off Road VehicleE



SUV  
Pick Up Trucks  
Off Road Vehi





# Data Cleaning

- Department names:

When the data was converted from its data source, the department names (see correct list below) didn't import correctly and they are now split over two columns in the data. Use Flash Fill to reduce the department names to just one column, and then remove any unnecessary columns.

Insert new column and fill the 2 column department into 1.

1	Department	Department
2	Board of	Elections
3	Board of	Elections
4	Circuit	Court
5	Community Engagement	Cluster



1	Department
2	Board of Elections
3	Board of Elections
4	Circuit Court
5	Community Engagement Cluster



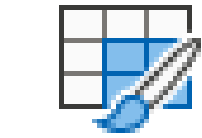


# PIVOT TABLE





# Pivot Table



Format as  
Table ▾

- Format the data as a table:

Use the Format as Table option to format the data as a table.

1	Department	Equipment Class
2	Housing and Community Affairs	Pick Up Trucks
3	Housing and Community Affairs	SUV
4	Housing and Community Affairs	Sedan
5	Human Rights	Sedan



1	Department ▾	Equipment Class ▾
2	Housing and Community Affairs	Pick Up Trucks
3	Housing and Community Affairs	SUV
4	Housing and Community Affairs	Sedan
5	Human Rights	Sedan





# Pivot Table

$\Sigma$  AutoSum 

- Use AutoSum to calculate values:

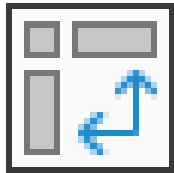
- SUM
- AVERAGE
- MIN
- MAX
- COUNT

SUM Equipment	1582
Average Equipment	32.2857143
Min Equipment	1
Max Equipment	379
Count Equipment	49





# Pivot Table



PivotTable

- Create a Pivot Table:

Use the PivotTable feature to create a pivot table that displays the Department field in the Rows section, and the Equipment Count in the Values section, so that the pivot table displays the sum of equipment count by department.

- Sort the pivot table data:

Use the Sort By Value setting on the pivot table to sort it in descending order by the sum of equipment count.



Row Labels	Sum of Equipment Count
Transportation	1221
Permitting Services	109
Sheriffs Office	85
Liquor Control	56
Housing and Community Affairs	45
Recreation	35
Technology Services	16
Libraries	6
State Attorneys Office	5
Human Rights	2
Office Of Homeland Security	1
Public Information Office	1

## PivotTable Fields

Choose fields to add to report:

Search

- ☒ Department
- ☐ Equipment Class
- ☒ Equipment Count

More Tables...

Drag fields between areas below:

Filters Columns

Rows Values

Department Sum of Equipment Co...



# Pivot Table

Analyze data in the pivot table:

- In pivot table 2 add the Equipment Class field below the Department field so that the different vehicle types appear under each department with their respective counts.
- Collapse all fields except the top one - Transportation
- In pivot table 3 add the Equipment Class field above the Department field so that the different vehicle types appear first, with the different departments listed underneath each vehicle type with their respective counts.
- Collapse all fields except the top one - CUV

Row Labels	Sum of Equipment Count
Transportation	1221
CUV	5
Heavy Duty	248
Medium Duty	98
Off Road Vehicle Equipment	276
Pick Up Trucks	93
Sedan	37
SUV	53
Transit Bus	379
Van	32
Permitting Services	109
Sheriffs Office	85
Liquor Control	56
Housing and Community Affairs	45
Recreation	35
Technology Services	16
Libraries	6
State Attorneys Office	5
Human Rights	2
Office Of Homeland Security	1
Public Information Office	1

Rows	Σ Values
Department	Sum of Equipment Co...
Equipment Class	

Row Labels	Sum of Equipment Count
CUV	15
Permitting Services	9
Transportation	5
Technology Services	1
Heavy Duty	290
Medium Duty	100
Off Road Vehicle Equipment	283
Pick Up Trucks	150
Public Safety CUV	4
Public Safety Pick Up Trucks	1
Public Safety Sedan	47
Public Safety SUV	20
Public Safety Van	8
Sedan	130
SUV	90
Transit Bus	379
Van	65

Equipment Class	Sum of Equipment Co...
Department	





# Conclusion

- Excel can be use for data cleaning but have limited dataset limit.
- Pivot table can be use for finding an insight of the dataset.





# THANK YOU

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