Assignment 1: Excel and data visualization

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Course: INFO 6540-Data Management

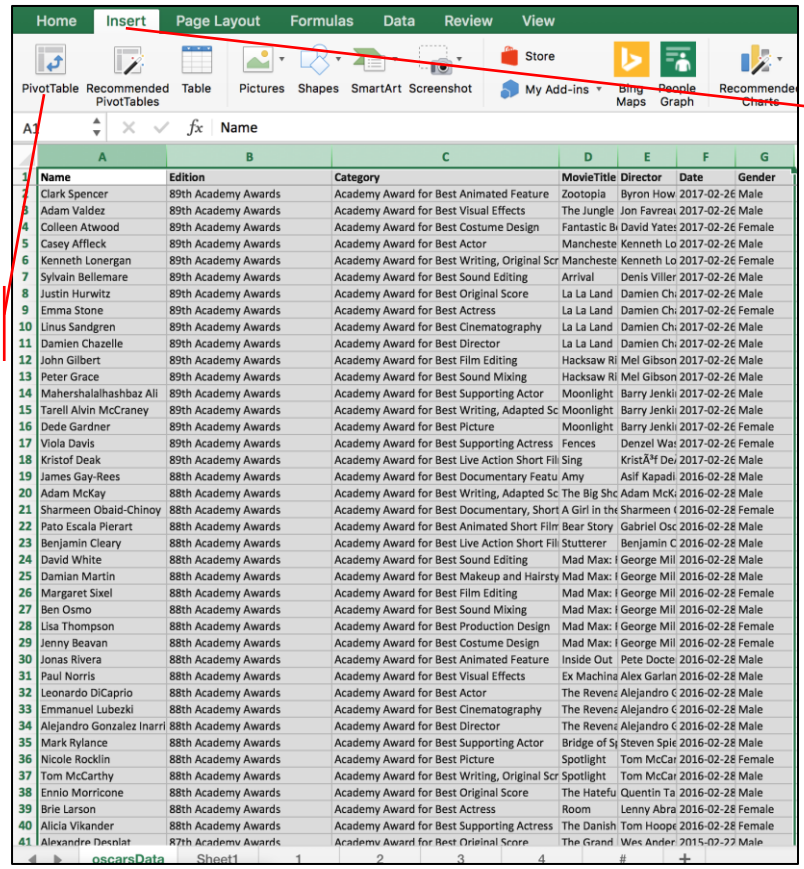
Due: Jan 30, 2018 by 11:59 pm AST

To complete the assignment, I created two files: a PDF document and an Excel file. For the PDF, I explained the answer of each question in detail; for the Excel file, I included the calculated results for these questions.

Questions:

First Question: Find which actors have more than one Academy Award, and how many.
To answer this question, I conducted the following three steps:

Step1: I highlighted the oscarsData sheet, clicked the insert, and then selected the PivotTable.



2- Clicking the insert

3- Selecting the PivotTable

1-Highlighting all the data

Step2: After clicking OK on the Create the PivotTable window, the PivotTable builder appeared. I selected the Name Field, which moves to the Value section. I dragged and dropped the Name in the Rows section. I repeated the same process for Category without moving it to the Rows section. I then dragged and dropped the Category again from the Field section in the Column section; the Category name does not appear if I move the Category to the Filter section (see Figure 1), which is a technical issue with my Excel. Finally, I selected the Academy Award for Best Actor.

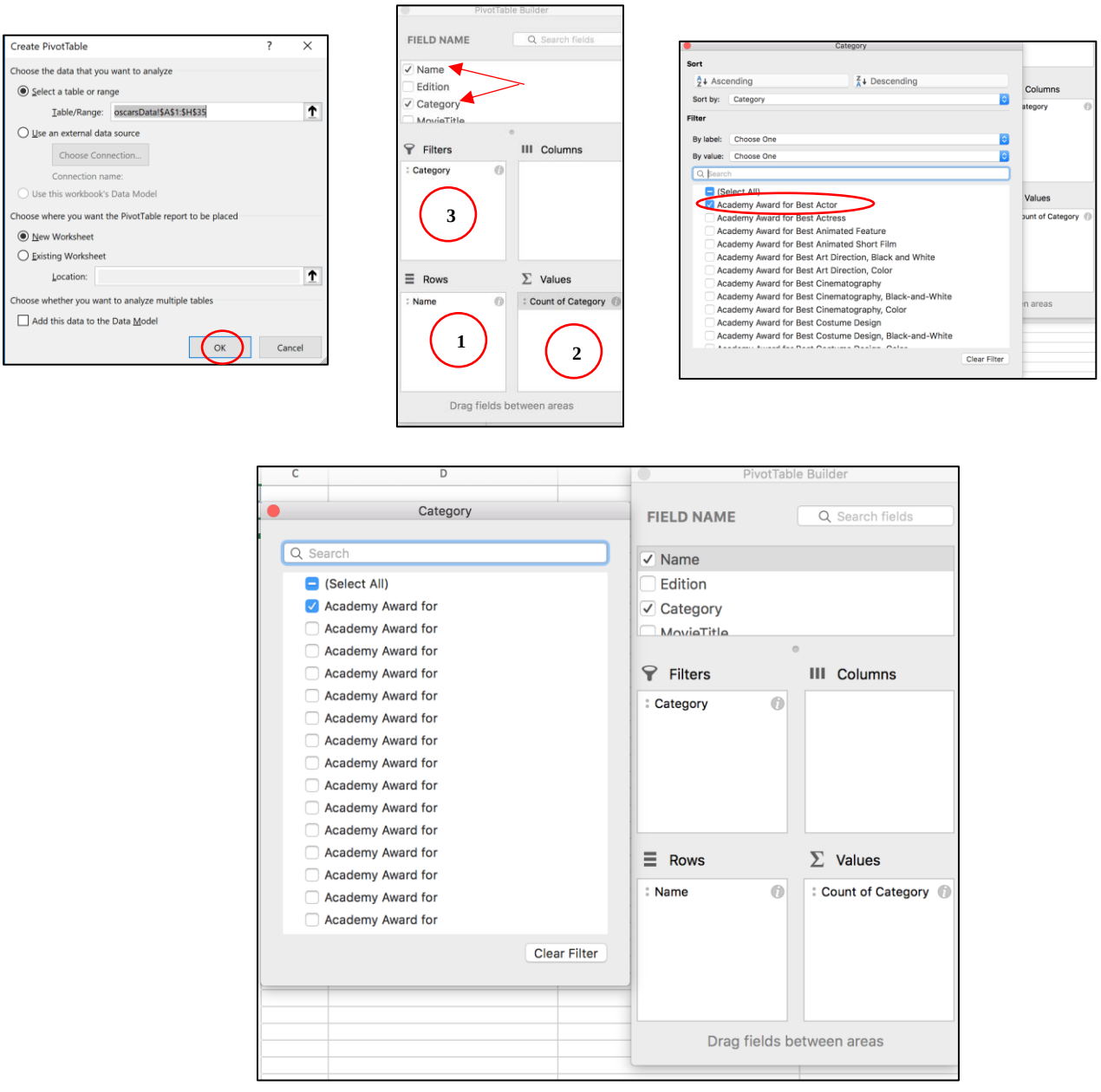
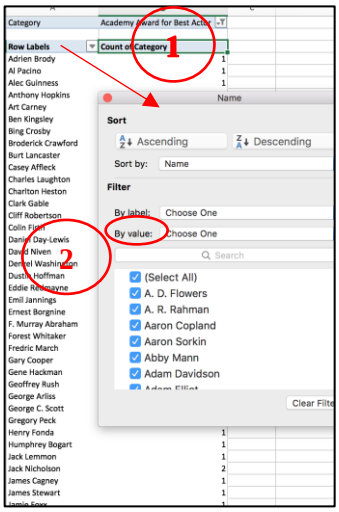
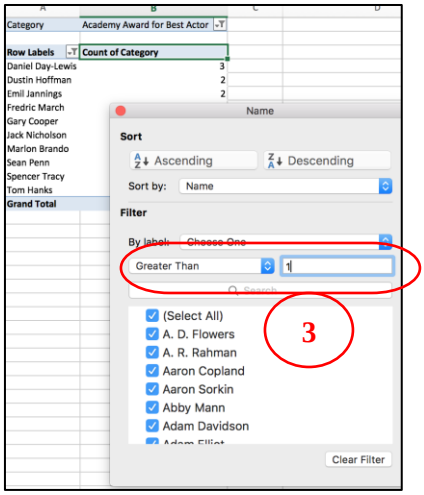


Figure 1: Technical issue (the full category does not show)

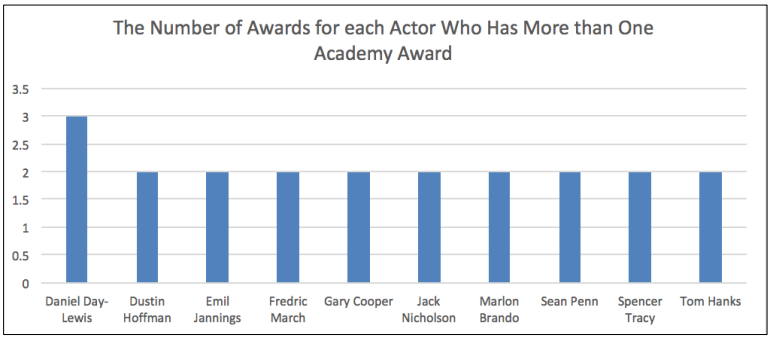
Step3: I clicked the Row Labels and the Name window appeared. I clicked the Values and selected Greater Than and typed “1”.





RESULT: The calculated answer is in the sheet labelled “1”.

Category	Academy Award for Best Actor
Row Labels	**Count of Category**
Daniel Day-Lewis	3
Dustin Hoffman	2
Emil Jannings	2
Fredric March	2
Gary Cooper	2
Jack Nicholson	2
Marlon Brando	2
Sean Penn	2
Spencer Tracy	2
Tom Hanks	2
Grand Total	**21**

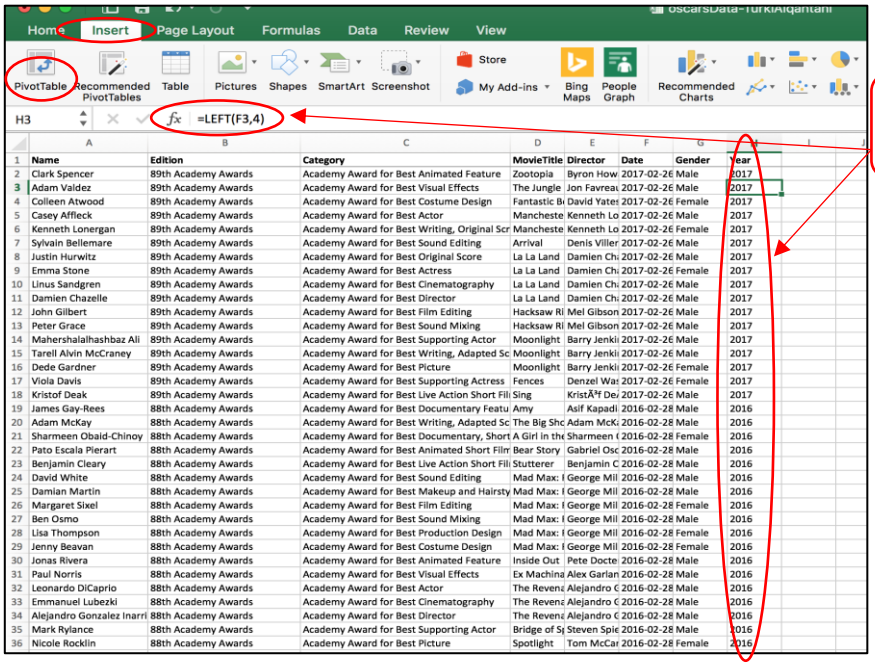


The results indicate that ten actors who have more than one Academy Award. Only one actor, Daniel Day-Lewis, has three Academy Awards whereas the others have two.

<u>Second Question:</u> For each year, calculate the number of male and female winners.
To answer the second question, I conducted the following two steps:

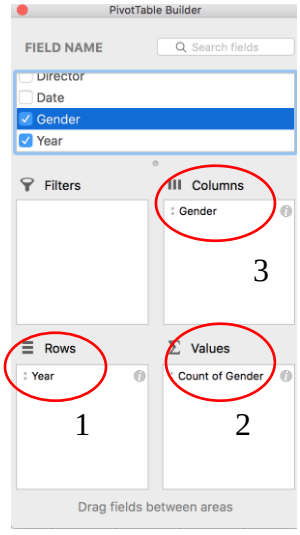
Step1: I added a new column (Year) to the oscarsData sheet. I used the LEFT (F2,4) function (F2 relates to the Date column and 4 relates to the first four numbers) in the H2 cell, then copied the function for the rest of the cells in the same column. I highlighted all the data, clicked Insert and then selected the PivotTable.

2- Clicking insert
3- Selecting PivotTable



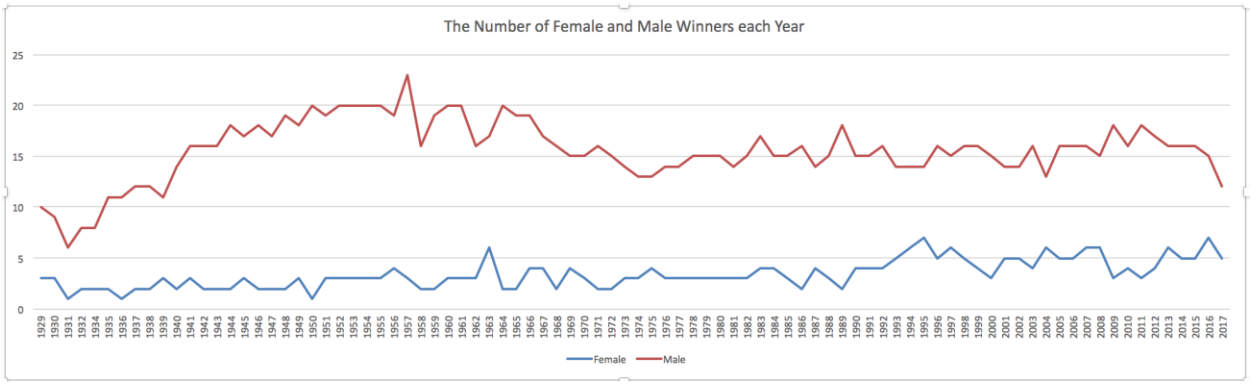
1- Adding year column using Left fun

Step2: In the PivotTable builder, I selected the Year field, which moves to the Value section. I then dragged and dropped Year into the Rows section. I repeated the same process for Gender without moving it into the Rows section. I then dragged and dropped Gender from the Field section into the Column section.



RESULT: The calculation answer is in the sheet labelled “2”.

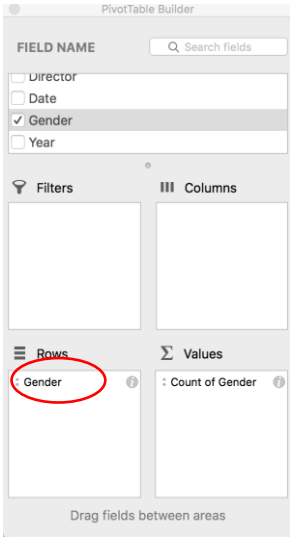
Count of Gender	Column Labels		
Row Labels	Female	Male	Grand Total
1929	3	10	13
1930	3	9	12
1931	1	6	7
1932	2	8	10
1934	2	8	10
1935	2	11	13
1936	1	11	12
1937	2	12	14
1938	2	12	14
1939	3	11	14
1940	2	14	16
1941	3	16	19
1942	2	16	18
1943	2	16	18
1944	2	18	20
1945	3	17	20
1946	2	18	20
1947	2	17	19
1948	2	19	21
1949	3	18	21
1950	1	20	21
1951	3	19	22
1952	3	20	23
1953	3	20	23
1954	3	20	23
1955	3	20	23
1956	4	19	23
1957	3	23	26
1958	2	16	18
1959	2	19	21
1960	3	20	23
1961	3	20	23
1962	3	16	19
1963	6	17	23
1964	2	20	22
1965	2	19	21
1966	4	19	23
1967	4	17	21
1968	2	16	18
1969	4	15	19
1970	3	15	18
1971	2	16	18
1972	2	15	17
1973	3	14	17
1974	3	13	16
1975	4	13	17
1976	3	14	17
1977	3	14	17
1978	3	15	18
1979	3	15	18
1980	3	15	18
1981	3	14	17
1982	3	15	18
1983	4	17	21
1984	4	15	19
1985	3	15	18
1986	2	16	18
1987	4	14	18
1988	3	15	18
1989	2	18	20
1990	4	15	19
1991	4	15	19
1992	4	16	20
1993	5	14	19
1994	6	14	20
1995	7	14	21
1996	5	16	21
1997	6	15	21
1998	5	16	21
1999	4	16	20
2000	3	15	18
2001	5	14	19
2002	5	14	19
2003	4	16	20
2004	6	13	19
2005	5	16	21
2006	5	16	21
2007	6	16	22
2008	6	15	21
2009	3	18	21
2010	4	16	20
2011	3	18	21
2012	4	17	21
2013	6	16	22
2014	5	16	21
2015	5	16	21
2016	7	15	22
2017	5	12	17
Grand Total	**301**	**1370**	**1671**



The results indicate that there are more male Academy Award winners than female winners. Additionally, the number of male winners was extremely high in 1975 as compared to other years. For females, the number of winners was highest in 1959 and 2016.

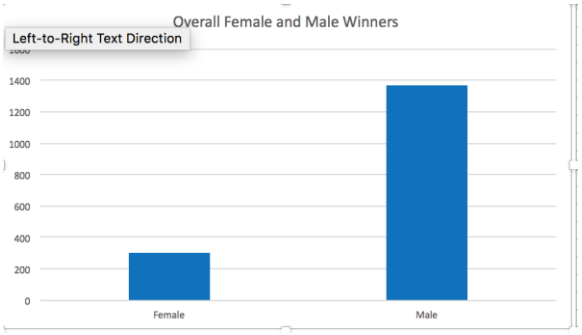
<u>Third Question:</u> Calculate how many male and female winners are there overall.
To answer the third question, I conducted the following steps:

Step1: I highlighted all the data, clicked Insert then selected the PivotTable. In the PivotTable builder, I selected the Gender filed which moves to the Value section. Then I dragged and dropped the Gender into the Rows section.



RESULT: The calculation answer is in the sheet labelled “3”.

Row Labels	Count of Gender
Female	301
Male	1370
Grand Total	1671

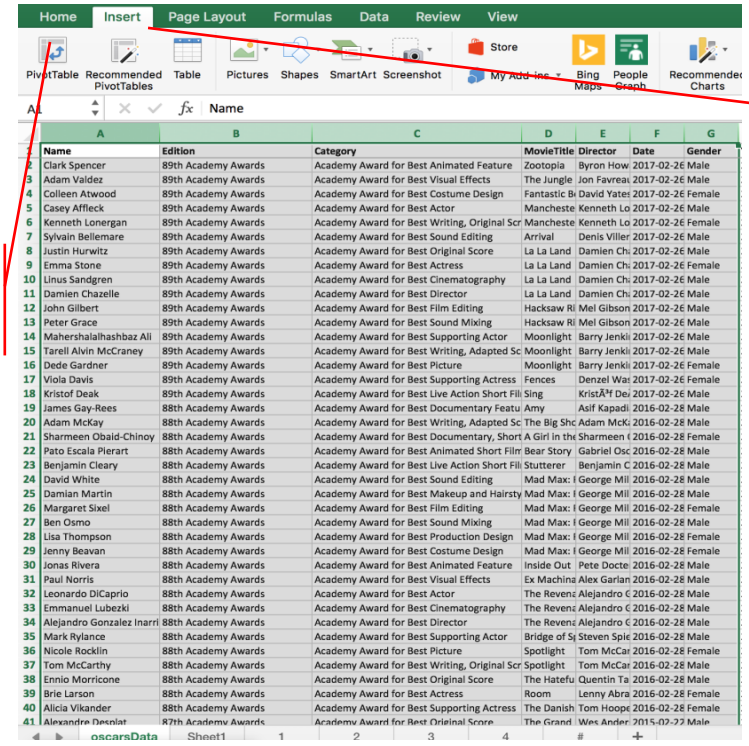


The results indicate that male winners are more than female winners. There are 1370 males and 301 females as winners of Academy Award.

Fourth Question: Find which directors have more than one Academy Award, and how many?

To answer the fourth question, I conducted the following steps:

Step1: I highlighted all the data, click the Insert then selected the PivotTable.

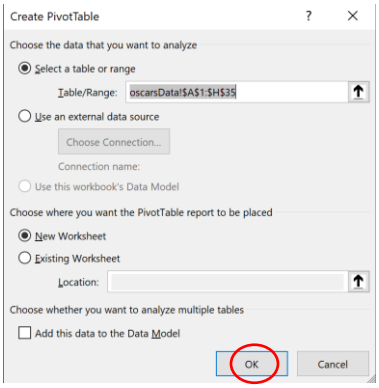


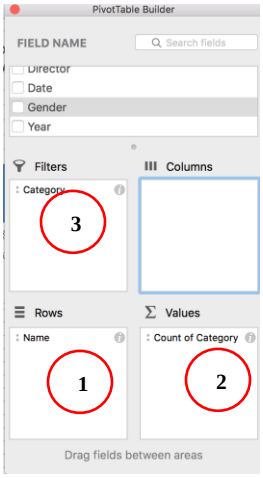
2- Clicking the insert

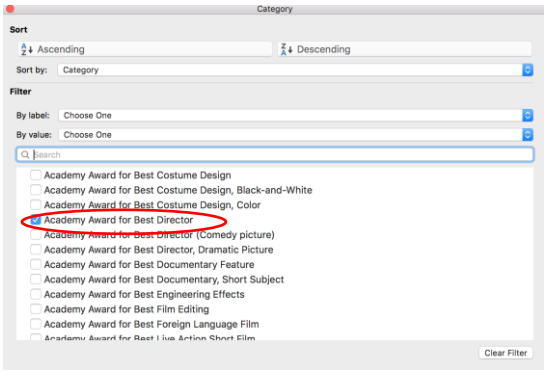
3- Selecting the PivotTable

1-Highlighting all the data

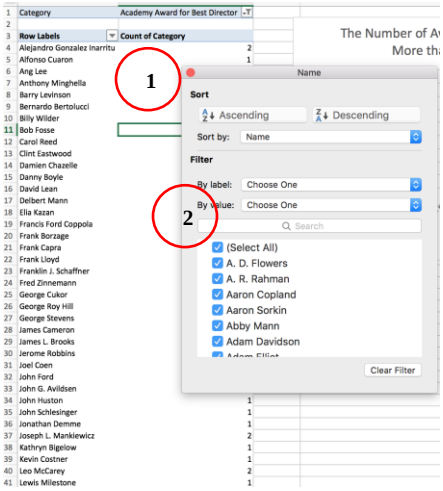
Step2: After clicking OK on the Create PivotTable window, the PivotTable builder appeared. I selected the Name field, which moves to the Value section. I then dragged and dropped the Name into the Rows section. I repeated the process for Category without moving it into the Rows section. I then dragged and dropped Category from the Field section into the Column section. Finally, I selected the Academy Award for Best Director.

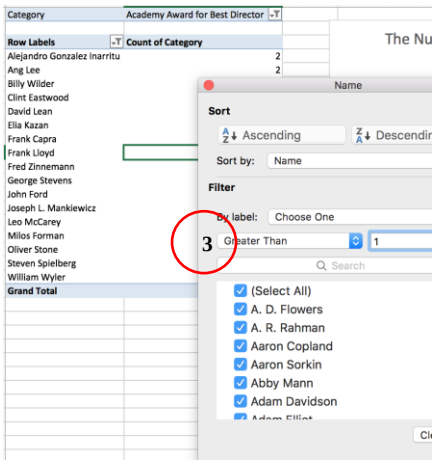






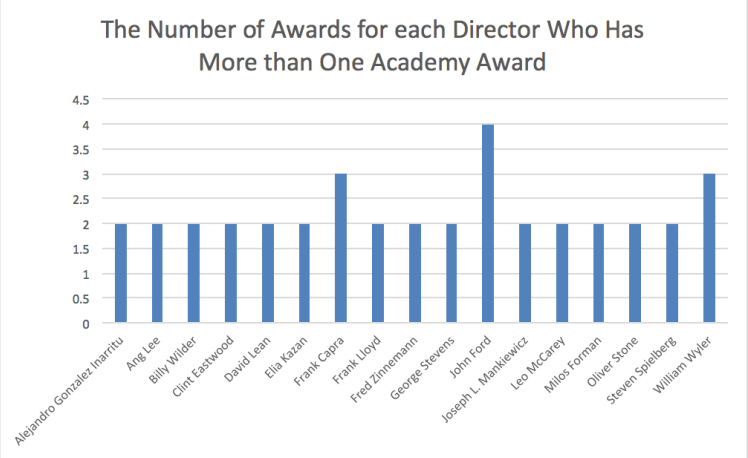
Step3: I clicked the Row Labels and the Name window appeared. I then clicked Values and selected Greater Than and typed "1".





RESULT: The calculation answer is in the sheet labelled “4”.

Category	Academy Award for Best Director
Row Labels	**Count of Category**
Alejandro Gonzalez Inarritu	2
Ang Lee	2
Billy Wilder	2
Clint Eastwood	2
David Lean	2
Elia Kazan	2
Frank Capra	3
Frank Lloyd	2
Fred Zinnemann	2
George Stevens	2
John Ford	4
Joseph L. Mankiewicz	2
Leo McCarey	2
Milos Forman	2
Oliver Stone	2
Steven Spielberg	2
William Wyler	3



The results show that sixteen directors have more than one Academy Award. Only one director, John Ford, has four Academy Awards, two directors, Frank Capra and William Wyler, have three Academy Awards and other directors have two.

Fifth Question: Use CONCATENATE to formulate your answers.

For this question I added “Best actors with year” sheet and “Best director with year” sheet to find the years for the best actor and director when using CONCATENATE.

- For the first answer

'=CONCATENATE('1'!A4," ","won in the category of"," ",'1'!$B$1," ",'1'!B4," times in ",'Best actors with year'!A5,", ",'Best actors with year'!A6," and ",'Best actors with year'!A7,".")

- For the second answer:

'=CONCATENATE("For"," ",'2'!A5,",","there are","
",GETPIVOTDATA("Gender",'2'!$A$3,"Gender","Female","Year","1929")," ",'2'!$B$4,"s","
","and"," ",GETPIVOTDATA("Gender",'2'!A3,"Gender","Male","Year","1929"),"
",'2'!$C$4,"s"," ","winners.")

- For the third answer:

'=CONCATENATE("Overall, there are","
",GETPIVOTDATA("Gender",'3'!A4,"Gender","Female")," ",'3'!A4,"s"," ","and","
",GETPIVOTDATA("Gender",'3'!$A$3,"Gender","Male")," ",'3'!A5,"s"," ","winners.")

- For the fourth answer:

'=CONCATENATE('4'!A4," ","won in the category of"," ",'4'!$B$1," ",'4'!B4," times in ",'Best Director with year'!A6," and ",'Best Director with year'!A7,".")

RESULT: The calculation answer is in the sheet called "5".

=CONCATENATE('1'!A4," ","won in the category of"," ",'1'!$B$1," ",'1'!B4," times in ",'Best actors with year'!A5,", ",'Best actors with year'!A6," and ",'Best actors with year'!A7,".")	=CONCATENATE("For"," ",'2'!A5,",","there are"," ",GETPIVOTDATA("Gender",'2'!$A$3,"Gender","Female","Year","1929")," ",'2'!$B$4,"s"," ","and"," ",GETPIVOTDATA("Gender",'2'!A3,"Gender","Male","Year","1929")," ",'2'!$C$4,"s"," ","winners.")	=CONCATENATE("Overall, there are"," ",GETPIVOTDATA("Gender",'3'!A4,"Gender","Female")," ",'3'!A4,"s"," ","and"," ",GETPIVOTDATA("Gender",'3'!$A$3,"Gender","Male")," ",'3'!A5,"s"," ","winners.")	=CONCATENATE('4'!A4," ","won in the category of"," ",'4'!$B$1," ",'4'!B4," times in ","Best Directo
1	2	3	4
Daniel Day-Lewis won in the category of Academy Award for Best Actor 3 times in 1990, 2008 and 2013.	For 1929,there are 3 Females and 10 Males winners.	Overall, there are 301 Females and 1370 Males winners.	Alejandro Gonzalez Inarritu won in the category of Academy Award for Best Director 2 times in 20
Dustin Hoffman won in the category of Academy Award for Best Actor 2 times in 1980 and 1989.	For 1930,there are 3 Females and 9 Males winners.		Ang Lee won in the category of Academy Award for Best Director 2 times in 2006 and 2013.
Emil Jannings won in the category of Academy Award for Best Actor 2 times in 1929.	For 1931,there are 1 Females and 6 Males winners.		Billy Wilder won in the category of Academy Award for Best Director 2 times in 1946 and 1961.
Fredric March won in the category of Academy Award for Best Actor 2 times in 1932 and 1947.	For 1932,there are 2 Females and 8 Males winners.		Clint Eastwood won in the category of Academy Award for Best Director 2 times in 1993 and 2005
Gary Cooper won in the category of Academy Award for Best Actor 2 times in 1942 and 1953.	For 1934,there are 2 Females and 8 Males winners.		David Lean won in the category of Academy Award for Best Director 2 times in 1958 and 1963.
Jack Nicholson won in the category of Academy Award for Best Actor 2 times in 1976 and 1998.	For 1935,there are 2 Females and 11 Males winners.		Elia Kazan won in the category of Academy Award for Best Director 2 times in 1948 and 1955.
Marlon Brando won in the category of Academy Award for Best Actor 2 times in 1955 and 1973.	For 1936,there are 1 Female and 11 Males winners.		Frank Capra won in the category of Academy Award for Best Director 3 times in 1935, 1937 and 19
Sean Penn won in the category of Academy Award for Best Actor 2 times in 2004 and 2009.	For 1937,there are 2 Females and 12 Males winners.		Frank Lloyd won in the category of Academy Award for Best Director 2 times in 1930 and 1934.
Spencer Tracy won in the category of Academy Award for Best Actor 2 times in 1938 and 1939.	For 1938,there are 2 Females and 12 Males winners.		Fred Zinnemann won in the category of Academy Award for Best Director 2 times in 1954 and 196
Tom Hanks won in the category of Academy Award for Best Actor 2 times in 1994 and 1995.	For 1939,there are 3 Females and 11 Males winners.		George Stevens won in the category of Academy Award for Best Director 2 times in 1952 and 1957
	For 1940,there are 2 Females and 14 Males winners.	Back to Table of Contents	John Ford won in the category of Academy Award for Best Director 4 times in 1936, 1941, 1942 an
	For 1941,there are 3 Females and 16 Males winners.		Joseph L. Mankiewicz won in the category of Academy Award for Best Director 2 times in 1950 an
	For 1942,there are 2 Females and 16 Males winners.		Leo McCarey won in the category of Academy Award for Best Director 2 times in 1938 and 1945.
	For 1943,there are 2 Females and 16 Males winners.		Milos Forman won in the category of Academy Award for Best Director 2 times in 1976 and 1985.
	For 1944,there are 2 Females and 18 Males winners.		Oliver Stone won in the category of Academy Award for Best Director 2 times in 1987 and 1990.
	For 1945,there are 3 Females and 17 Males winners.		Steven Spielberg won in the category of Academy Award for Best Director 2 times in 1994 and 195
	For 1946,there are 2 Females and 18 Males winners.		William Wyler won in the category of Academy Award for Best Director 3 times in 1943, 1947 and
	For 1947,there are 2 Females and 17 Males winners.		

Interesting Information about trends in the Academy Awards over time:

Figure 2 indicates that the number of awards increased between 1931 and 1957, which had the highest number of designated awards compared to other years. The number of awards decreased after 1957 and has been unstable since. Moreover, during the increase in of awards between 1931 until 1957, there were more male winners than female winners (Figure 3). Additionally, the number of male winners was extremely high in 1957 compared to other years, while women had their highest years in 1959 and 2016—yet still lower numbers than males.

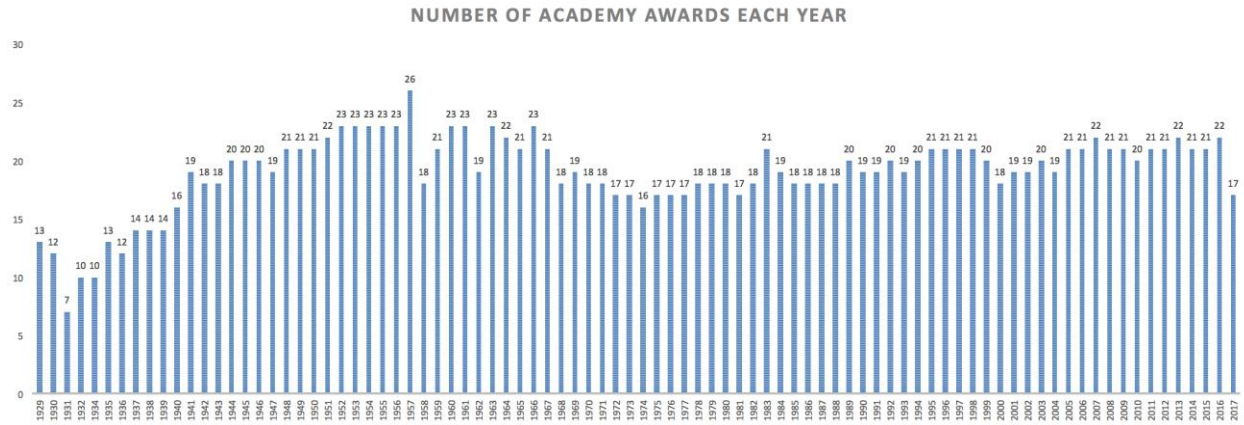


Figure 2: Number of Academy Awards each year

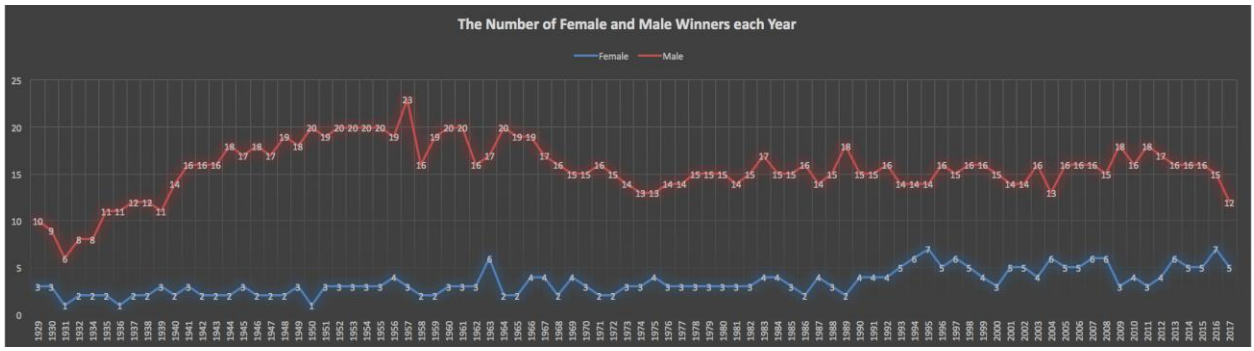


Figure 3: Number of female and male winners each year