

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.

The screenshot shows the Microsoft Excel interface with the 'Insert' tab selected. The 'PivotTable' option is highlighted in the 'Tables' group. The spreadsheet below shows a table with columns: Name, Edition, Category, MovieTitle, Director, Date, and Gender. The data is sorted by Name.

Name	Edition	Category	MovieTitle	Director	Date	Gender
Clark Spencer	89th Academy Awards	Academy Award for Best Animated Feature	Zootopia	Byron How	2017-02-26	Male
Adam Valdez	89th Academy Awards	Academy Award for Best Visual Effects	The Jungle	Jon Favreau	2017-02-26	Male
Colleen Atwood	89th Academy Awards	Academy Award for Best Costume Design	Fantastic Be	David Yates	2017-02-26	Female
Casey Affleck	89th Academy Awards	Academy Award for Best Actor	Mancheste	Kenneth Lo	2017-02-26	Male
Kenneth Lonergan	89th Academy Awards	Academy Award for Best Writing, Original Scr	Mancheste	Kenneth Lo	2017-02-26	Female
Sylvain Bellemare	89th Academy Awards	Academy Award for Best Sound Editing	Arrival	Denis Villier	2017-02-26	Male
Justin Hurwitz	89th Academy Awards	Academy Award for Best Original Score	La La Land	Damien Ch	2017-02-26	Male
Emma Stone	89th Academy Awards	Academy Award for Best Actress	La La Land	Damien Ch	2017-02-26	Female
Linus Sandgren	89th Academy Awards	Academy Award for Best Cinematography	La La Land	Damien Ch	2017-02-26	Male
Damien Chazelle	89th Academy Awards	Academy Award for Best Director	La La Land	Damien Ch	2017-02-26	Male
John Gilbert	89th Academy Awards	Academy Award for Best Film Editing	Hacksaw Ri	Mel Gibson	2017-02-26	Male
Peter Grace	89th Academy Awards	Academy Award for Best Sound Mixing	Hacksaw Ri	Mel Gibson	2017-02-26	Male
Mahershallhashbaz Ali	89th Academy Awards	Academy Award for Best Supporting Actor	Moonlight	Barry Jenki	2017-02-26	Male
Tarell Alvin McCraney	89th Academy Awards	Academy Award for Best Writing, Adapted Sc	Moonlight	Barry Jenki	2017-02-26	Female
Dede Gardner	89th Academy Awards	Academy Award for Best Picture	Moonlight	Barry Jenki	2017-02-26	Male
Viola Davis	89th Academy Awards	Academy Award for Best Supporting Actress	Fences	Denzel Wa	2017-02-26	Female
Kristof Deak	89th Academy Awards	Academy Award for Best Live Action Short Fil	Sing	Krista	2017-02-26	Male
James Gay-Rees	88th Academy Awards	Academy Award for Best Documentary Featu	Amy	Asif Kapadi	2016-02-28	Male
Adam McKay	88th Academy Awards	Academy Award for Best Writing, Adapted Sc	The Big Shc	Adam McK	2016-02-28	Male
Sharmeen Obaid-Chinoy	88th Academy Awards	Academy Award for Best Documentary, Short A Girl in the	Sharmeen		2016-02-28	Female
Pato Escala Pierart	88th Academy Awards	Academy Award for Best Animated Short Film	Bear Story	Gabriel Osc	2016-02-28	Male
Benjamin Cleary	88th Academy Awards	Academy Award for Best Live Action Short Fil	Stutterer	Benjamin C	2016-02-28	Male
David White	88th Academy Awards	Academy Award for Best Sound Editing	Mad Max: I	George Mil	2016-02-28	Male
Damian Martin	88th Academy Awards	Academy Award for Best Makeup and Hairsty	Mad Max: I	George Mil	2016-02-28	Male
Margaret Sixel	88th Academy Awards	Academy Award for Best Film Editing	Mad Max: I	George Mil	2016-02-28	Female
Ben Osmo	88th Academy Awards	Academy Award for Best Sound Mixing	Mad Max: I	George Mil	2016-02-28	Male
Lisa Thompson	88th Academy Awards	Academy Award for Best Production Design	Mad Max: I	George Mil	2016-02-28	Female
Jenny Beavan	88th Academy Awards	Academy Award for Best Costume Design	Mad Max: I	George Mil	2016-02-28	Female
Jonas Rivera	88th Academy Awards	Academy Award for Best Animated Feature	Inside Out	Pete Docte	2016-02-28	Male
Paul Norris	88th Academy Awards	Academy Award for Best Visual Effects	Ex Machina	Alex Garlan	2016-02-28	Male
Leonardo DiCaprio	88th Academy Awards	Academy Award for Best Actor	The Reven	Alejandro C	2016-02-28	Male
Emmanuel Lubezki	88th Academy Awards	Academy Award for Best Cinematography	The Reven	Alejandro C	2016-02-28	Male
Alejandro Gonzalez Inarri	88th Academy Awards	Academy Award for Best Director	The Reven	Alejandro C	2016-02-28	Male
Mark Rylance	88th Academy Awards	Academy Award for Best Supporting Actor	Bridge of S	Steven Spie	2016-02-28	Male
Nicole Rocklin	88th Academy Awards	Academy Award for Best Picture	Spotlight	Tom McCar	2016-02-28	Female
Tom McCarthy	88th Academy Awards	Academy Award for Best Writing, Original Scr	Spotlight	Tom McCar	2016-02-28	Male
Ennio Morricone	88th Academy Awards	Academy Award for Best Original Score	The Hatefu	Quentin Ta	2016-02-28	Male
Brie Larson	88th Academy Awards	Academy Award for Best Actress	Room	Lenny Abra	2016-02-28	Female
Alicia Vikander	88th Academy Awards	Academy Award for Best Supporting Actress	The Danish	Tom Hoop	2016-02-28	Female
Alexandre Desplat	87th Academy Awards	Academy Award for Best Original Score	The Grand	Wes Ander	2015-02-22	Male

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.

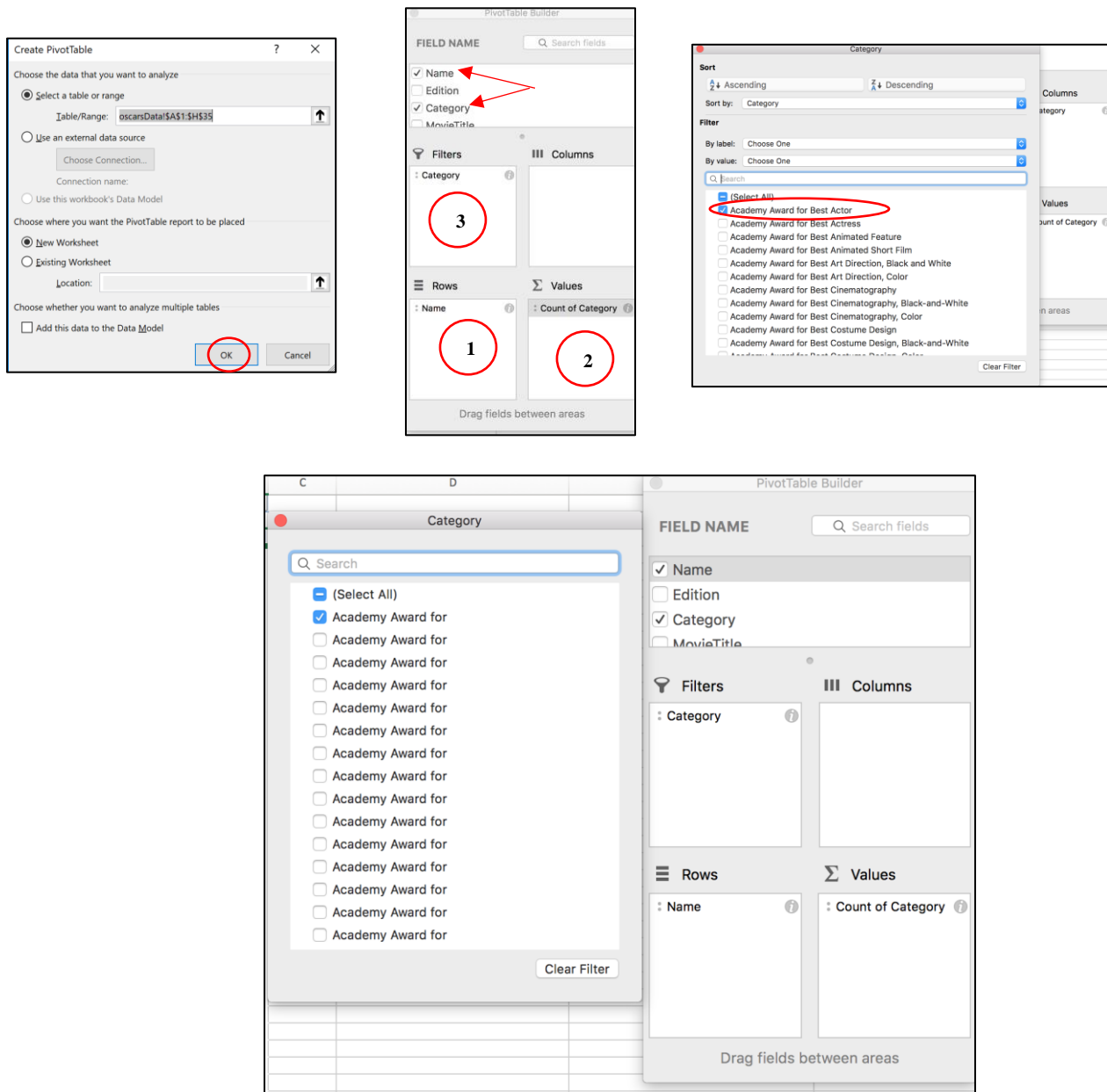
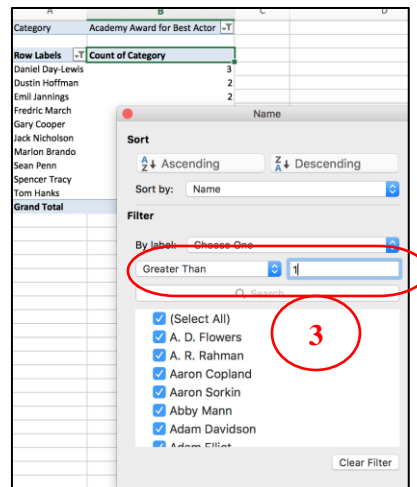
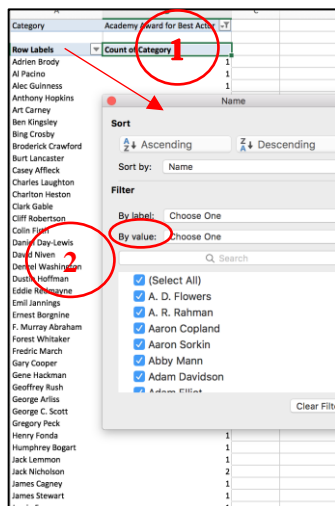


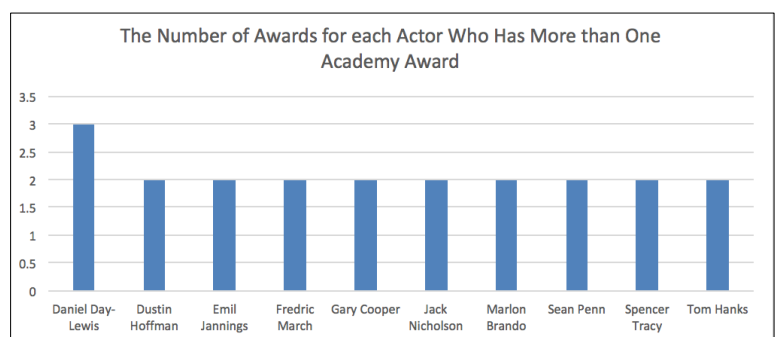
Figure 1: Technical issue (the full category does not show)

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.

Second Question: For each year, calculate the number of male and female winners.

To answer the second question, I conducted the following two steps:

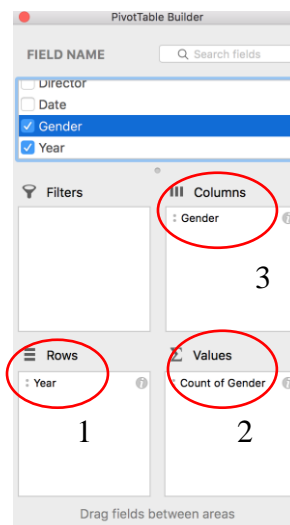
Step1: I added a new column (Year) to the oscarData sheet. I used the LEFT (F2,4) function (F2 relates to the Date column and 4 relates to the first four numbers) in the H2 cell, then copied the function for the rest of the cells in the same column. I highlighted all the data, clicked Insert and then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

2- Clicking insert
3- Selecting
PivotTable

Name	Edition	Category	MovieTitle	Director	Date	Gender	Year
Clark Spencer	89th Academy Awards	Academy Award for Best Animated Feature	Zootopia	Byron How	2017-02-26	Male	2017
Adam Valdez	89th Academy Awards	Academy Award for Best Visual Effects	The Jungle	Jon Favreau	2017-02-26	Male	2017
Colleen Atwood	89th Academy Awards	Academy Award for Best Costume Design	Fantastic Be	David Yates	2017-02-26	Female	2017
Casey Affleck	89th Academy Awards	Academy Award for Best Actor	Manchester	Kenneth Lo	2017-02-26	Male	2017
Kenneth Lonergan	89th Academy Awards	Academy Award for Best Writing, Original Scr	Manchester	Kenneth Lo	2017-02-26	Female	2017
Sylvain Bellemare	89th Academy Awards	Academy Award for Best Sound Editing	Arrival	Denis Villier	2017-02-26	Male	2017
Justin Hurwitz	89th Academy Awards	Academy Award for Best Original Score	La La Land	Damien Chi	2017-02-26	Male	2017
Emma Stone	89th Academy Awards	Academy Award for Best Actress	La La Land	Damien Chi	2017-02-26	Female	2017
Linus Sandgren	89th Academy Awards	Academy Award for Best Cinematography	La La Land	Damien Chi	2017-02-26	Male	2017
Damien Chazelle	89th Academy Awards	Academy Award for Best Director	La La Land	Damien Chi	2017-02-26	Male	2017
John Gilbert	89th Academy Awards	Academy Award for Best Film Editing	Hacksaw Ri	Mel Gibson	2017-02-26	Male	2017
Peter Grace	89th Academy Awards	Academy Award for Best Sound Mixing	Hacksaw Ri	Mel Gibson	2017-02-26	Male	2017
Mahershalhashbaz Ali	89th Academy Awards	Academy Award for Best Supporting Actor	Moonlight	Barry Jenki	2017-02-26	Male	2017
Tarell Alvin McCraney	89th Academy Awards	Academy Award for Best Writing, Adapted Sc	Moonlight	Barry Jenki	2017-02-26	Male	2017
Dede Gardner	89th Academy Awards	Academy Award for Best Picture	Moonlight	Barry Jenki	2017-02-26	Female	2017
Viola Davis	89th Academy Awards	Academy Award for Best Supporting Actress	Fences	Denzel Wai	2017-02-26	Female	2017
Kristof Deak	89th Academy Awards	Academy Award for Best Live Action Short Fil	Sing	Kristof De	2017-02-26	Male	2017
James Gay-Rees	88th Academy Awards	Academy Award for Best Documentary Featu	Amy	Auf Kapadi	2016-02-28	Male	2016
Adam McKay	88th Academy Awards	Academy Award for Best Writing, Adapted Sc	The Big Shc	Adam McKi	2016-02-28	Male	2016
Sharmeen Obaid-Chinoy	88th Academy Awards	Academy Award for Best Documentary, Short A	A Girl in th	Sharmeen	2016-02-28	Female	2016
Pato Escala Pierart	88th Academy Awards	Academy Award for Best Animated Short Film	Bear Story	Gabriel Osc	2016-02-28	Male	2016
Benjamin Cleary	88th Academy Awards	Academy Award for Best Live Action Short Fil	Stutterer	Benjamin C	2016-02-28	Male	2016
David White	88th Academy Awards	Academy Award for Best Sound Editing	Mad Max: I	George Mil	2016-02-28	Male	2016
Damian Martin	88th Academy Awards	Academy Award for Best Makeup and Hairsty	Mad Max: I	George Mil	2016-02-28	Male	2016
Margaret Stiel	88th Academy Awards	Academy Award for Best Film Editing	Mad Max: I	George Mil	2016-02-28	Female	2016
Ben Osmo	88th Academy Awards	Academy Award for Best Sound Mixing	Mad Max: I	George Mil	2016-02-28	Male	2016
Lisa Thompson	88th Academy Awards	Academy Award for Best Production Design	Mad Max: I	George Mil	2016-02-28	Female	2016
Jenny Beavan	88th Academy Awards	Academy Award for Best Costume Design	Mad Max: I	George Mil	2016-02-28	Female	2016
Jonas Rivera	88th Academy Awards	Academy Award for Best Animated Feature	Inside Out	Pete Docte	2016-02-28	Male	2016
Paul Norris	88th Academy Awards	Academy Award for Best Visual Effects	Ex Machina	Alex Garlan	2016-02-28	Male	2016
Leonardo DiCaprio	88th Academy Awards	Academy Award for Best Actor	The Reven	Alejandro C	2016-02-28	Male	2016
Emmanuel Lubezki	88th Academy Awards	Academy Award for Best Cinematography	The Reven	Alejandro C	2016-02-28	Male	2016
Alejandro Gonzalez Inarri	88th Academy Awards	Academy Award for Best Director	The Reven	Alejandro C	2016-02-28	Male	2016
Mark Rylance	88th Academy Awards	Academy Award for Best Supporting Actor	Bridge of S	Steven Spie	2016-02-28	Male	2016
Nicole Rocklin	88th Academy Awards	Academy Award for Best Picture	Spotlight	Tom McCar	2016-02-28	Female	2016

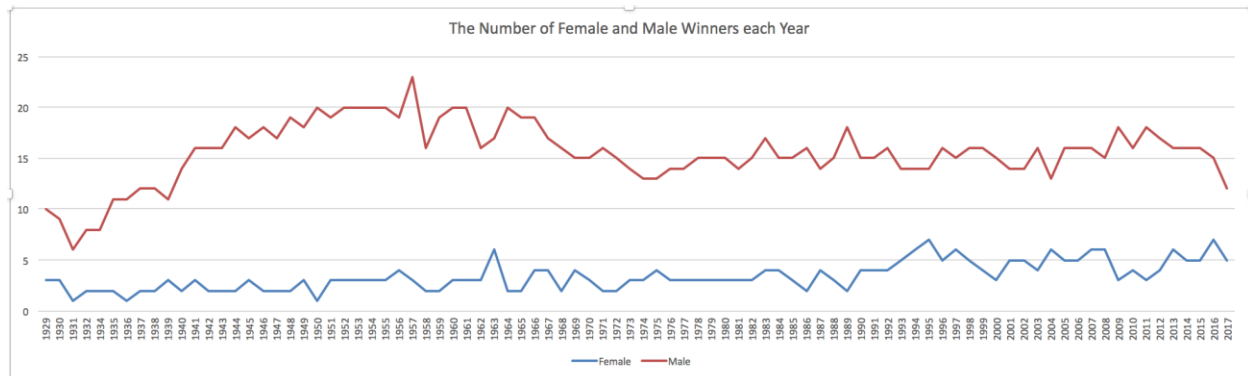
1- Adding year column
using Left fun

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

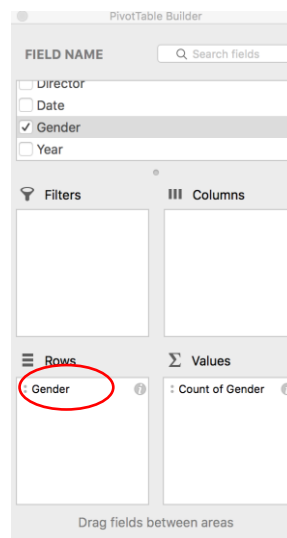


The results indicate that there are more male Academy Award winners than female winners. Additionally, the number of male winners was extremely high in 1975 as compared to other years. For females, the number of winners was highest in 1959 and 2016.

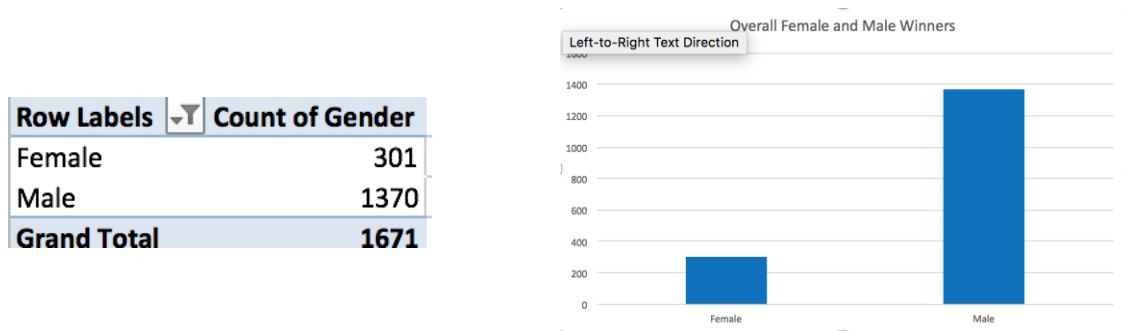
Third Question: Calculate how many male and female winners are there overall.

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”.



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.

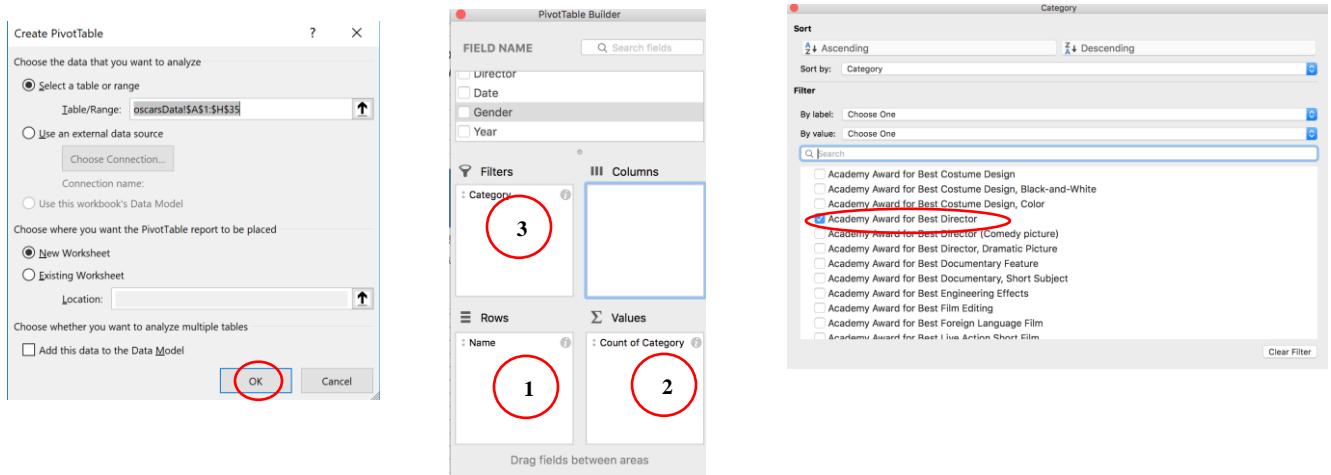
3- Selecting the PivotTable

2- Clicking the insert

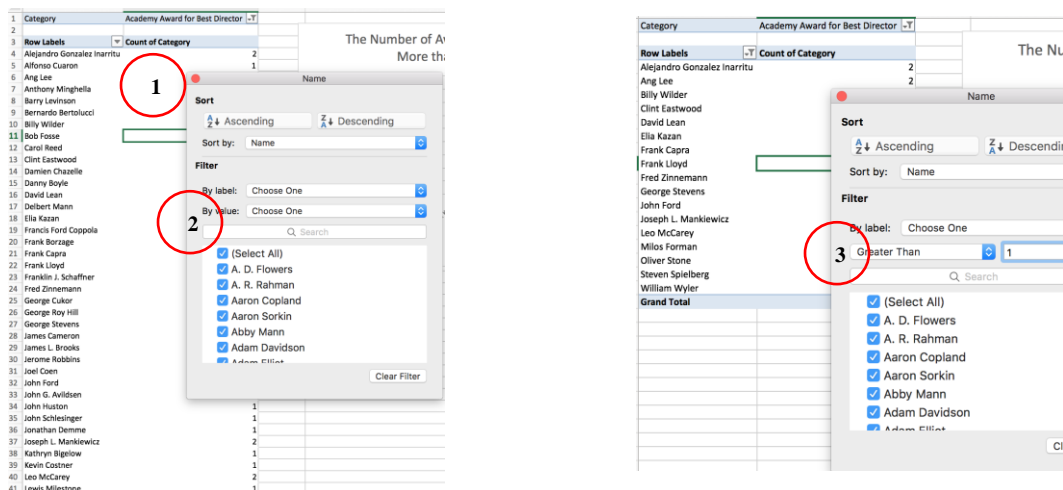
1-Highlighting all the data

Name	Edition	Category	MovieTitle	Director	Date	Gender
Clark Spencer	89th Academy Awards	Academy Award for Best Animated Feature	Zootopia	Byron How	2017-02-26	Male
Adam Valdez	89th Academy Awards	Academy Award for Best Visual Effects	The Jungle	Jon Favrea	2017-02-26	Male
Colleen Atwood	89th Academy Awards	Academy Award for Best Costume Design	Fantastic Bi	David Yate	2017-02-26	Female
Casey Affleck	89th Academy Awards	Academy Award for Best Actor	Mancheste	Kenneth Lo	2017-02-26	Male
Kenneth Lonergan	89th Academy Awards	Academy Award for Best Writing, Original Scr	Mancheste	Kenneth Lo	2017-02-26	Female
Sylvain Bellemare	89th Academy Awards	Academy Award for Best Sound Editing	Arrival	Denis Villie	2017-02-26	Male
Justin Hurwitz	89th Academy Awards	Academy Award for Best Original Score	La La Land	Damien Chi	2017-02-26	Male
Emma Stone	89th Academy Awards	Academy Award for Best Actress	La La Land	Damien Chi	2017-02-26	Female
Linus Sandgren	89th Academy Awards	Academy Award for Best Cinematography	La La Land	Damien Chi	2017-02-26	Male
Damien Chazelle	89th Academy Awards	Academy Award for Best Director	La La Land	Damien Chi	2017-02-26	Male
John Gilbert	89th Academy Awards	Academy Award for Best Film Editing	Hacksaw Ri	Mel Gibson	2017-02-26	Male
Peter Grace	89th Academy Awards	Academy Award for Best Sound Mixing	Hacksaw Ri	Mel Gibson	2017-02-26	Male
Mahershahalhashbaz Ali	89th Academy Awards	Academy Award for Best Supporting Actor	Moonlight	Barry Jenki	2017-02-26	Male
Tarell Alvin McCraney	89th Academy Awards	Academy Award for Best Writing, Adapted Sc	Moonlight	Barry Jenki	2017-02-26	Male
Dele Gardner	89th Academy Awards	Academy Award for Best Picture	Moonlight	Barry Jenki	2017-02-26	Female
Viola Davis	89th Academy Awards	Academy Award for Best Supporting Actress	Fences	Denzel Wa	2017-02-26	Female
Kristof Deak	89th Academy Awards	Academy Award for Best Live Action Short Fil	Sing	KristAH Dei	2017-02-26	Male
James Gay-Rees	88th Academy Awards	Academy Award for Best Documentary Featu	Asif Kapadi	2016-02-28	Male	
Adam McKay	88th Academy Awards	Academy Award for Best Writing, Adapted Sc	The Big Shc	Adam Mck	2016-02-28	Male
Sharmeen Obaid-Chinoy	88th Academy Awards	Academy Award for Best Documentary, Short A	Girl in th	Sharmeen C	2016-02-28	Female
Pato Escala Pierart	88th Academy Awards	Academy Award for Best Animated Short Film	Bear Story	Gabriel Osc	2016-02-28	Male
Benjamin Cleary	88th Academy Awards	Academy Award for Best Live Action Short Fil	Stutterer	Benjamin C	2016-02-28	Male
David White	88th Academy Awards	Academy Award for Best Sound Editing	Mad Max: I	George Mil	2016-02-28	Male
Damian Martin	88th Academy Awards	Academy Award for Best Makeup and Hairsty	Mad Max: I	George Mil	2016-02-28	Male
Margaret Sixel	88th Academy Awards	Academy Award for Best Film Editing	Mad Max: I	George Mil	2016-02-28	Female
Ben Osno	88th Academy Awards	Academy Award for Best Sound Mixing	Mad Max: I	George Mil	2016-02-28	Male
Lisa Thompson	88th Academy Awards	Academy Award for Best Production Design	Mad Max: I	George Mil	2016-02-28	Female
Jenny Beavan	88th Academy Awards	Academy Award for Best Costume Design	Mad Max: I	George Mil	2016-02-28	Female
Jonas Rivera	88th Academy Awards	Academy Award for Best Animated Feature	Inside Out	Pete Docte	2016-02-28	Male
Paul Norris	88th Academy Awards	Academy Award for Best Visual Effects	Ex Machina	Alex Garlan	2016-02-28	Male
Leonardo DiCaprio	88th Academy Awards	Academy Award for Best Actor	The Reven	Alejandro C	2016-02-28	Male
Emmanuel Lubezki	88th Academy Awards	Academy Award for Best Cinematography	The Reven	Alejandro C	2016-02-28	Male
Alejandro Gonzalez Inarri	88th Academy Awards	Academy Award for Best Director	The Reven	Alejandro C	2016-02-28	Male
Mark Rylance	88th Academy Awards	Academy Award for Best Supporting Actor	Bridge of S	Steven Spic	2016-02-28	Male
Nicole Rocklin	88th Academy Awards	Academy Award for Best Picture	Spotlight	Tom McCart	2016-02-28	Female
Tom McCarthy	88th Academy Awards	Academy Award for Best Writing, Original Scr	Spotlight	Tom McCart	2016-02-28	Male
Ennio Morricone	88th Academy Awards	Academy Award for Best Original Score	The Hatefu	Quentin Ta	2016-02-28	Male
Brie Larson	88th Academy Awards	Academy Award for Best Actress	Room	Lenny Abra	2016-02-28	Female
Alicia Vikander	88th Academy Awards	Academy Award for Best Supporting Actress	The Danish	Tom Hoop	2016-02-28	Female
Alexandra Dercuat	87th Academy Awards	Academy Award for Best Original Score	The Grand	Wes Ander	2015-02-22	Male

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.

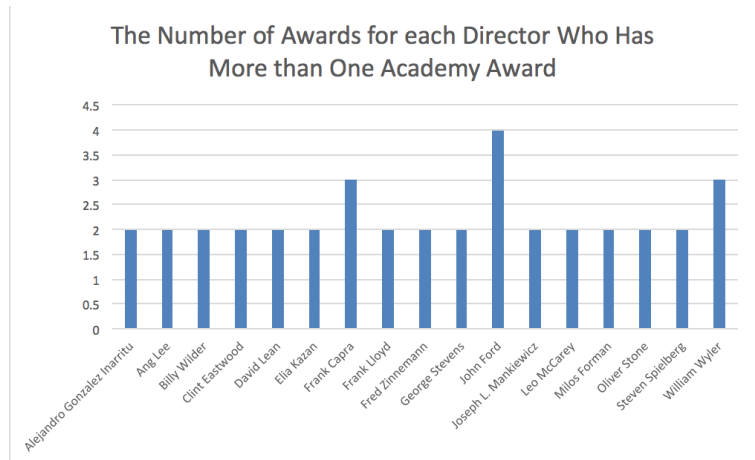


Step3: I clicked the Row Labels and the Name window appeared. I then clicked Values and selected Greater Than and typed “1”.



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 Director with year!A6," and ", 'Best Director with year!A7,".")
1 Daniel Day-Lewis won in the category of Academy Award for Best Actor 3 times in 1990, 2008 and 2013. Dustin Hoffman won in the category of Academy Award for Best Actor 2 times in 1980 and 1989. Emil Jannings won in the category of Academy Award for Best Actor 2 times in 1929. Fredric March won in the category of Academy Award for Best Actor 2 times in 1932 and 1947. Gary Cooper won in the category of Academy Award for Best Actor 2 times in 1942 and 1953. Jack Nicholson won in the category of Academy Award for Best Actor 2 times in 1976 and 1998. Marlon Brando won in the category of Academy Award for Best Actor 2 times in 1955 and 1973. Sean Penn won in the category of Academy Award for Best Actor 2 times in 2004 and 2009. Spencer Tracy won in the category of Academy Award for Best Actor 2 times in 1938 and 1939. Tom Hanks won in the category of Academy Award for Best Actor 2 times in 1994 and 1995.	2 For 1929, there are 3 Females and 10 Males winners. For 1930, there are 3 Females and 9 Males winners. For 1931, there are 1 Females and 6 Males winners. For 1932, there are 2 Females and 8 Males winners. For 1934, there are 2 Females and 8 Males winners. For 1935, there are 2 Females and 11 Males winners. For 1936, there are 1 Female and 11 Males winners. For 1937, there are 2 Females and 12 Males winners. For 1938, there are 2 Females and 12 Males winners. For 1939, there are 3 Females and 11 Males winners. For 1940, there are 2 Females and 14 Males winners. For 1941, there are 3 Females and 16 Males winners. For 1942, there are 2 Females and 16 Males winners. For 1943, there are 2 Females and 16 Males winners. For 1944, there are 2 Females and 18 Males winners. For 1945, there are 3 Females and 17 Males winners. For 1946, there are 2 Females and 18 Males winners. For 1947, there are 2 Females and 17 Males winners.	3 Overall, there are 301 Females and 1370 Males winners.	4 Alejandro Gonzalez Inarritu won in the category of Academy Award for Best Director 2 times in 2006 and 2013. Ang Lee won in the category of Academy Award for Best Director 2 times in 2006 and 2013. Billy Wilder won in the category of Academy Award for Best Director 2 times in 1946 and 1961. Clint Eastwood won in the category of Academy Award for Best Director 2 times in 1993 and 2005. David Lean won in the category of Academy Award for Best Director 2 times in 1958 and 1963. Ella Kazan won in the category of Academy Award for Best Director 2 times in 1948 and 1955. Frank Capra won in the category of Academy Award for Best Director 3 times in 1935, 1937 and 1941. Frank Lloyd won in the category of Academy Award for Best Director 2 times in 1930 and 1934. Fred Zinnemann won in the category of Academy Award for Best Director 2 times in 1954 and 1966. George Stevens won in the category of Academy Award for Best Director 2 times in 1952 and 1957. John Ford won in the category of Academy Award for Best Director 4 times in 1936, 1941, 1942 and 1943. Joseph L. Mankiewicz won in the category of Academy Award for Best Director 2 times in 1950 and 1951. Leo McCarey won in the category of Academy Award for Best Director 2 times in 1938 and 1945. Milos Forman won in the category of Academy Award for Best Director 2 times in 1976 and 1980. Oliver Stone won in the category of Academy Award for Best Director 2 times in 1987 and 1990. Steven Spielberg won in the category of Academy Award for Best Director 2 times in 1994 and 1995. William Wyler won in the category of Academy Award for Best Director 3 times in 1943, 1947 and 1958.

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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.

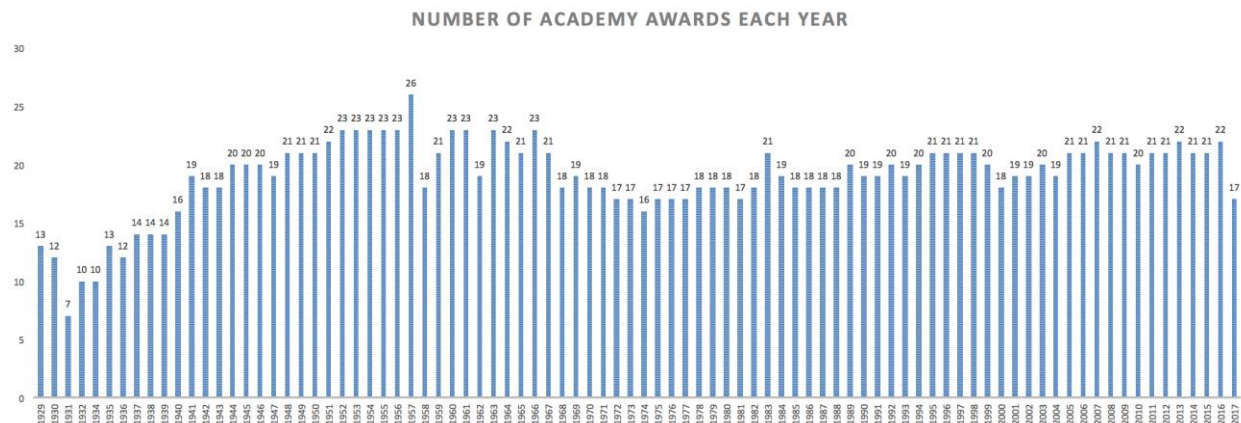


Figure 2: Number of Academy Awards each year

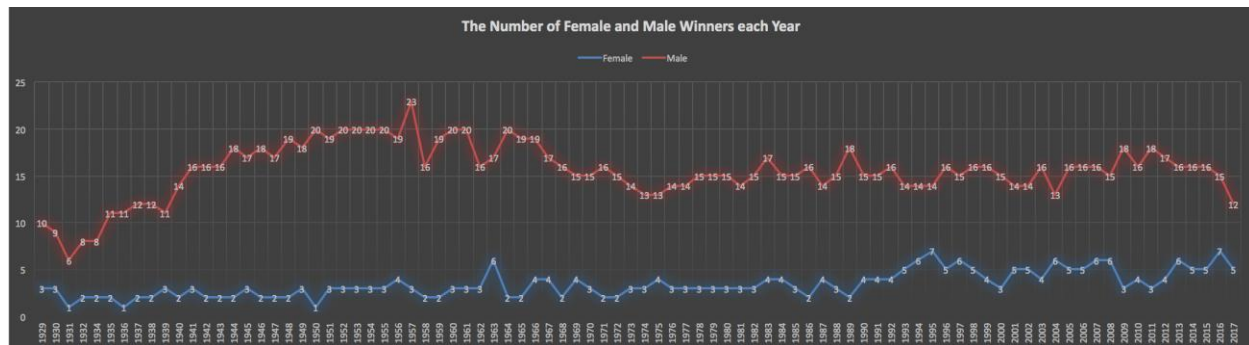


Figure 3: Number of female and male winners each year