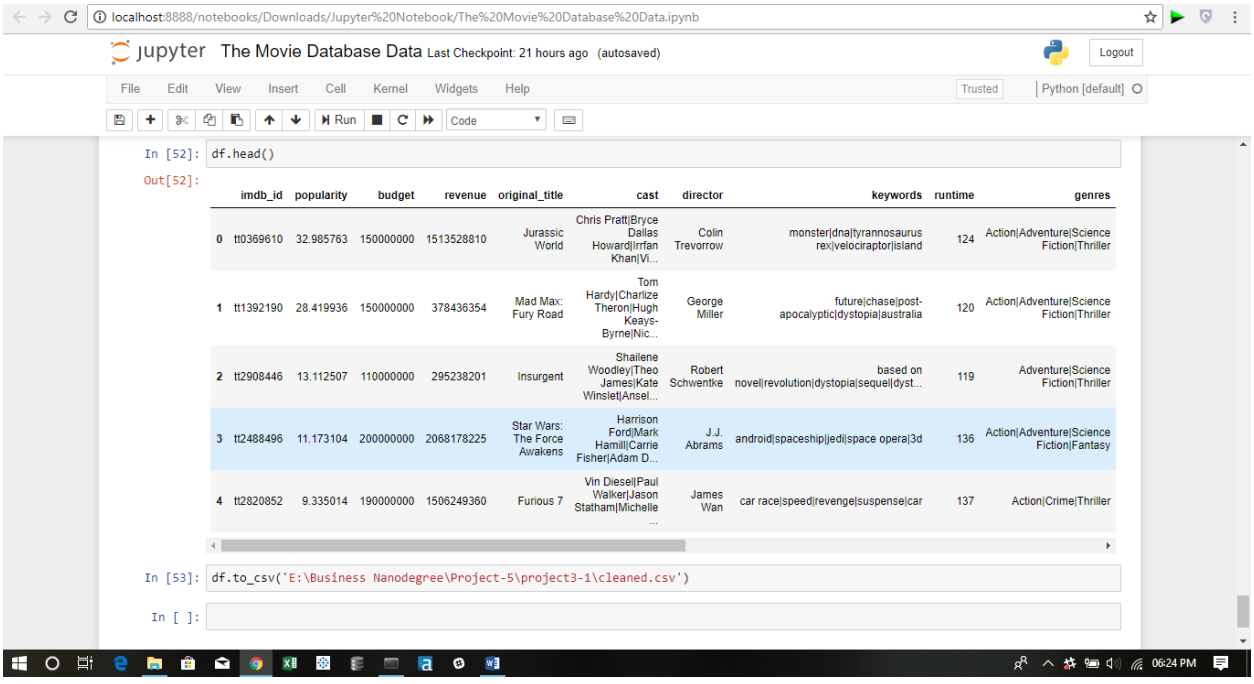
Project: Visualizing Movie Data

Complete each section. When you are ready, save your file as a PDF document and submit it here.

Step 1: Data Cleanup and Attribute Selection

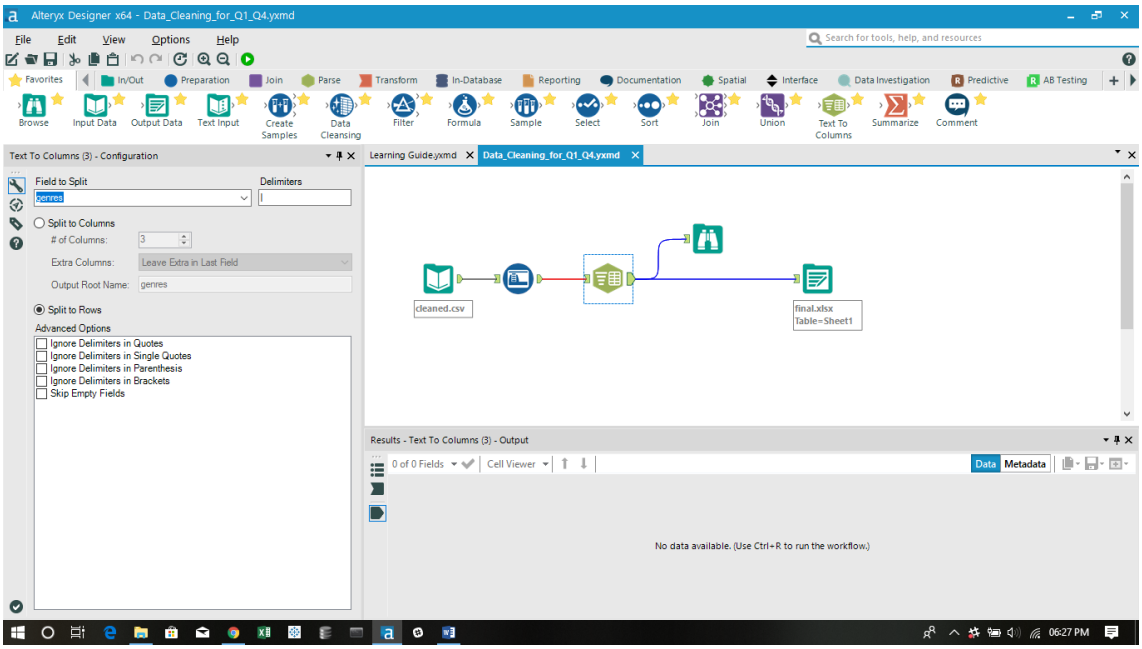
- I have cleaned the dataset using python's libraries in jupyter notebook.
- There were total 8873 rows with missing values.
- Duplicate values were removed.
- Null values with respect to primary key ('imdb_id) were removed.
- Extraneous Columns were removed.
  I decided to drop the following following columns as that will not provide any useful info :-
  > 'id'
  > 'homepage'
  > 'tagline'
  > 'overview'
- Cleaning dataframe :-



- I decided to explore the following attributes to dive further in my visualizations.
  ->Popularity
  ->Budget
  ->Revenue
  ->Runtime

->Genres
->Release_date
->Vote_count

- For question 1 and question 4 :-
  To split the hybrid values in the genres column , I have used Alteryx and used text to rows feature of Alteryx and using delimeter as '|'.



- For question 2 and 3 I have continued with cleaned file with python as splitting the 'genres' column in rows will draw duplicated values in other questions.

Step 2: Tableau Visualizations

- I have followed the rubric instructions and attached all the files in the zip format and the links of my public dashboards is as follows:-

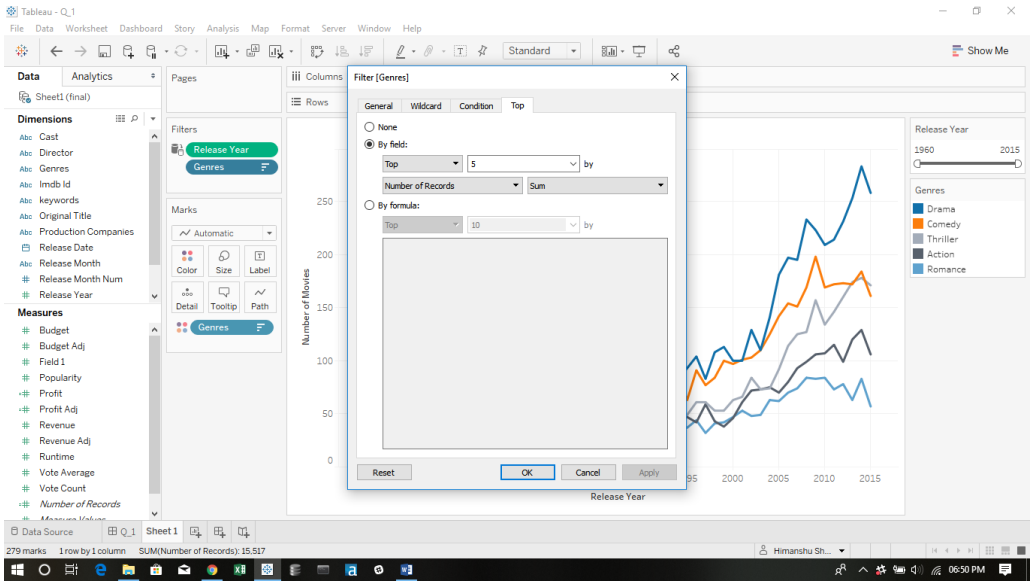
Question -1

➔ https://public.tableau.com/profile/himanshu.sharma3138#!/vizhome/Q_1_4/Q_1?publish=yes

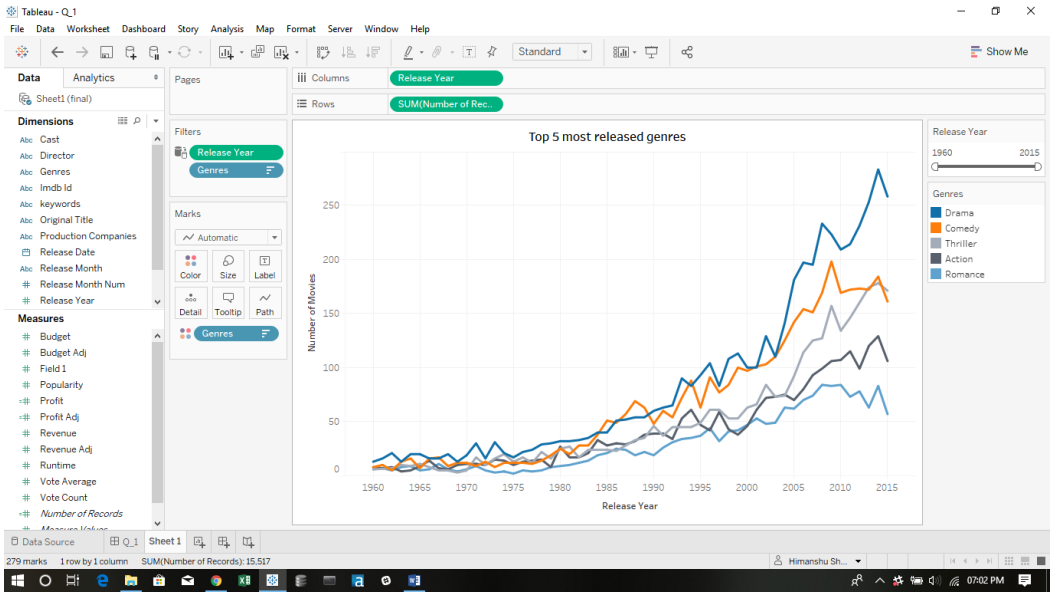
Concepts Used:-

➔ Visualisation 1
  - ➢ I have filtered the genre dimension by top 5 values according to the sum of total number of records.
  - ➢ Then I have plotted the line graphs on a single visualization between the number of records and release_year.

- I have applied the colour formatting in the marks table on the basis of genres.
- I have provided a filter for the release_year .



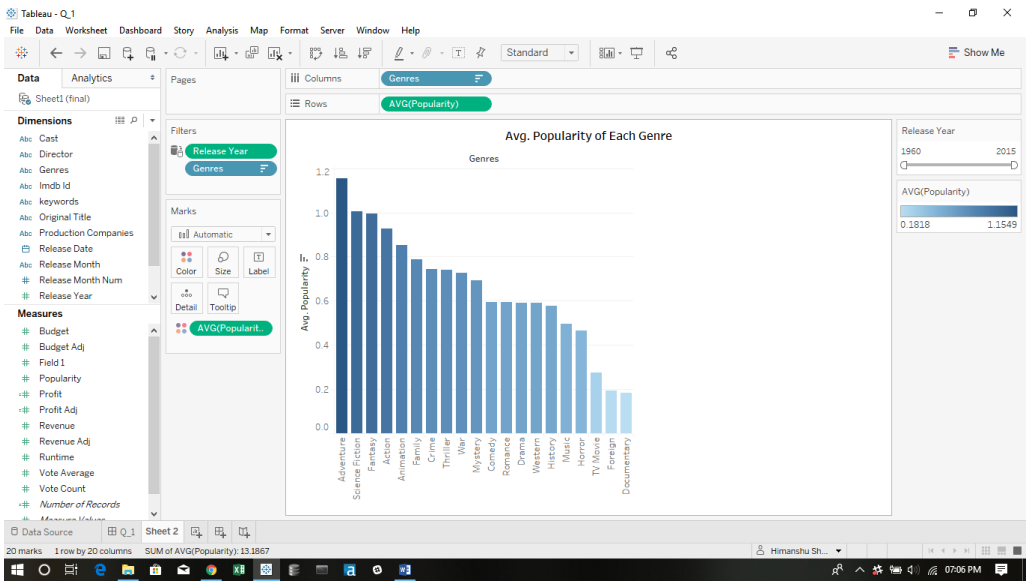
- Final visualisation



➔ Visualisation 2

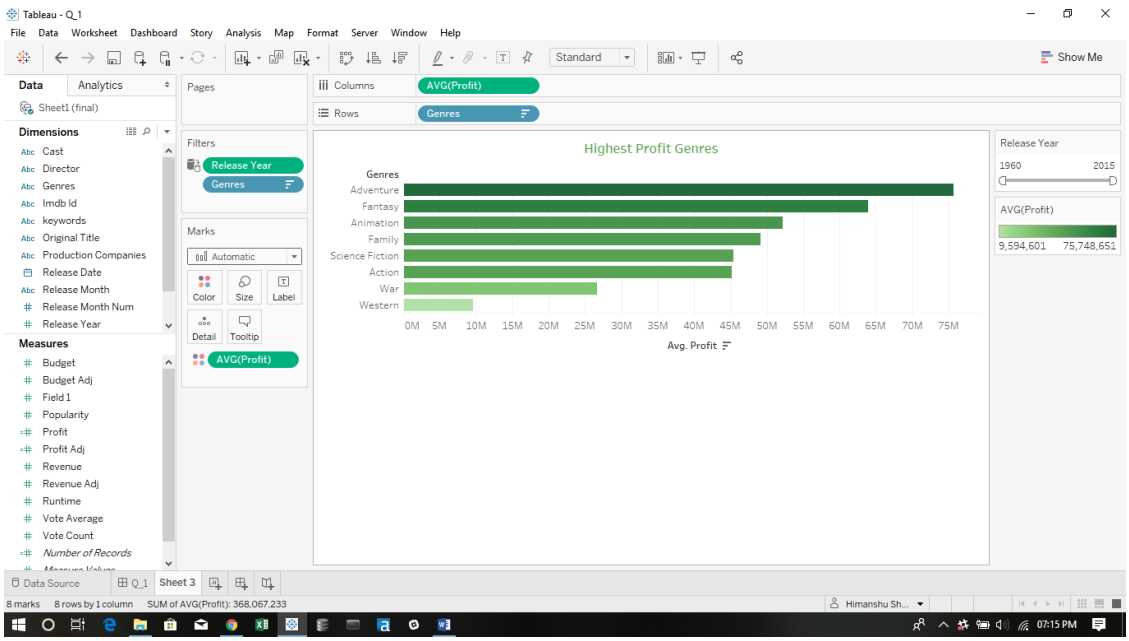
- I have plotted a bar graph between the average(Popularity) and genre.
- I have given a filter for release_year.
- I have also done colour foramatting on the basis of Average popularity,i.e, more the average popularity, darker the colour.

- Final Visaulization :-

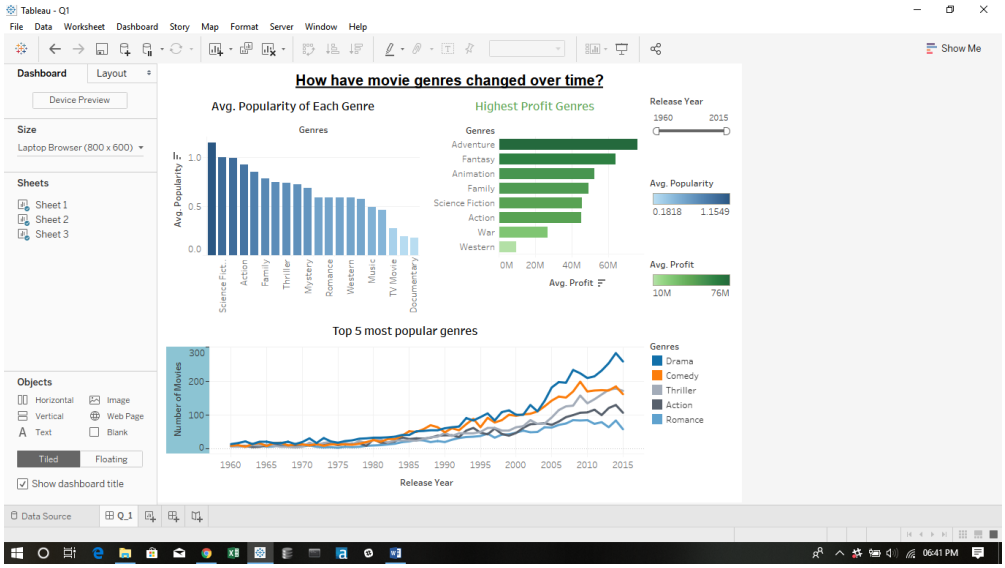


➔ Visualizatin 3:-

- I have made a new calculated field ‘Profit’ by applying the formula ‘revenue’-‘budget’.
- I have drawn horizontal bars between average profit and genres.
- I have given a filter for release_year.
- I have also done colour foramatting on the basis of profit ,i.e, more the profit, darker the colour.
- I have shown only the top most profiting genres using the filter by condition.
- Final visualization :-



➔ Final Dashboard for Q_1



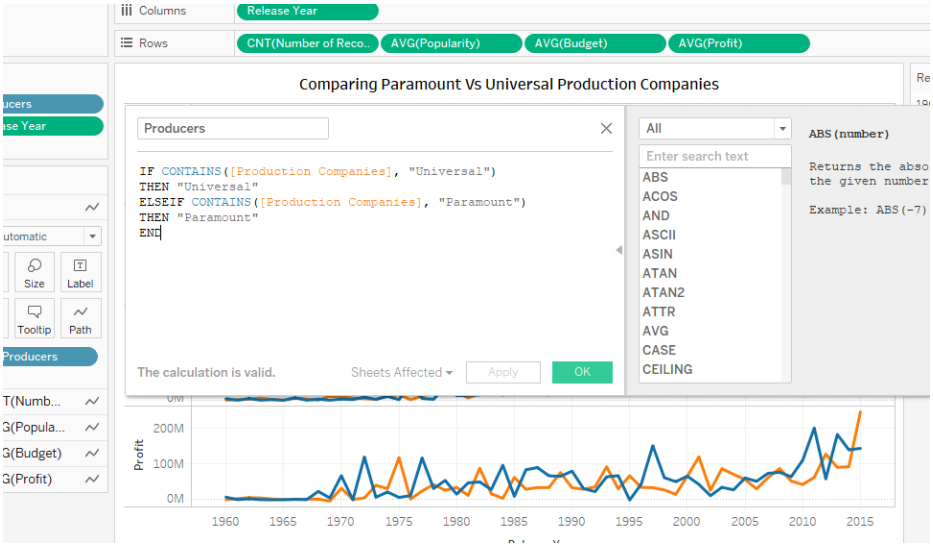
Question -2

➔ https://public.tableau.com/profile/himanshu.sharma3138#!/vizhome/Q2_234/Q_2?publish=yes

Concepts Used-

➔ Visualization 1-

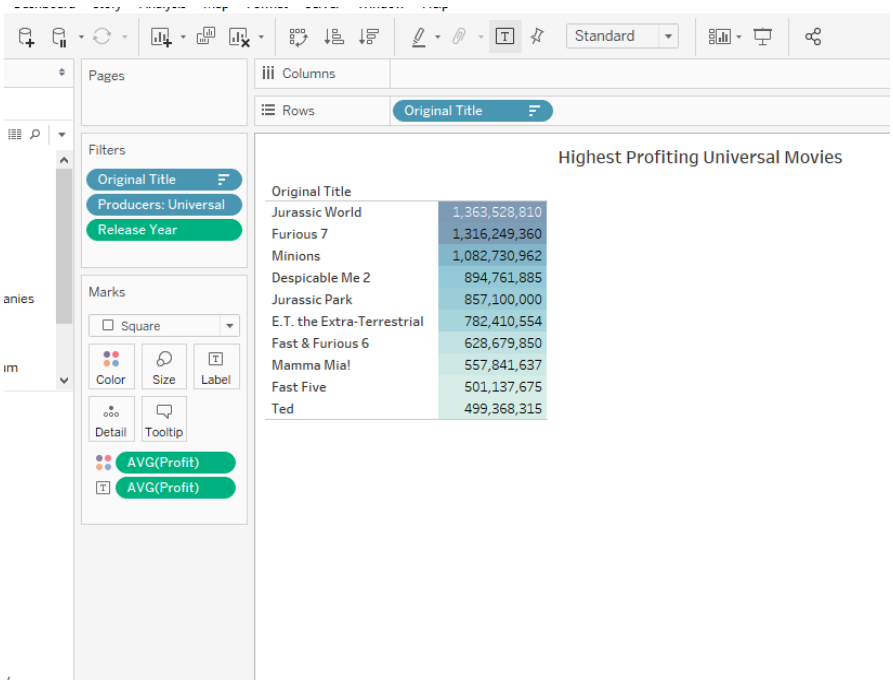
- I have made a new calculated field ‘producers’ which on the following formula .
  IF CONTAINS([Production Companies], "Universal")
  THEN "Universal" ELSEIF CONTAINS([Production Companies], "Paramount")
  THEN "Paramount"
  END



- Drawn lines graphs with dual axis method for release year against number of records, average_popularity , average_budget and average_profit.
- I have provided a filter for release year
- I have edited the colour formatting in the marks table and assigned the ‘color blind’ pallete .
- Data for paramout production is shown in ‘blue’ colour and data for universal productions is shown in ‘orange colour’.

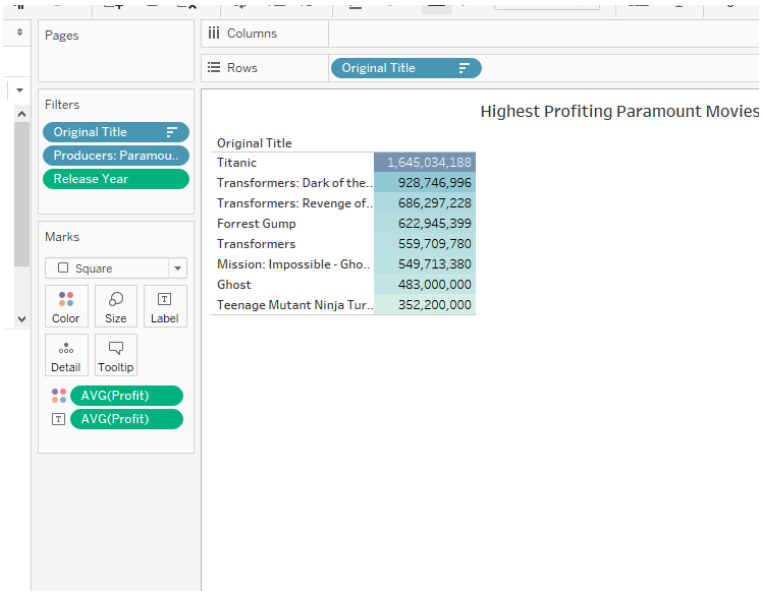
➔ Visualization 2

- For this I have drawn a text table for Original title and avg(profit) .
- I have filtered the movies by dragging producers column to the fiters table and selecting ‘Universal’ from the values shown.
- Now,I have applied an condition to show the list of Universal movies that are in list of Top 100 highest profitable movies of all time .
- I have provided a filter for the release_date.
- I have done the colour formatting on profit column on the basis of avg(profit).

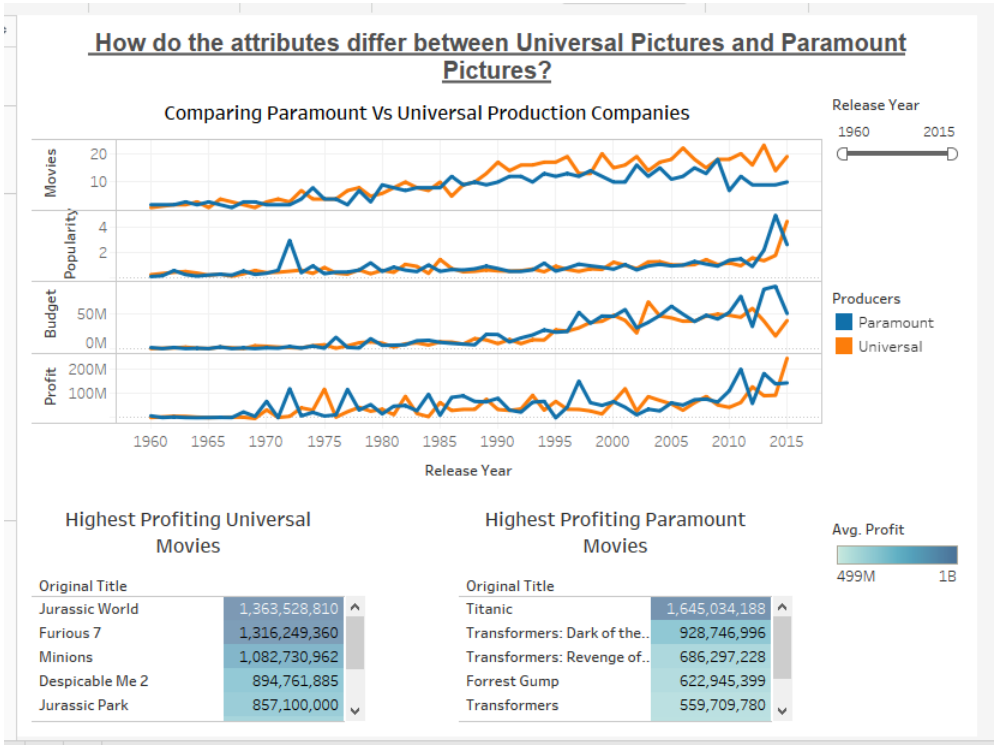


➔ Visualization 3

- For this I have drawn a text table for Original title and avg(profit) .
- I have filtered the movies by dragging producers column to the fiters table and selecting ‘Paramount’ from the values shown.
- Now,I have applied an condition to show the list of Paramount movies that are in list of Top 100 highest profitable movies of all time .
- I have provided a filter for the release_date.
- I have done the colour formatting on profit column on the basis of avg(profit).



➔ Final Dashboard –



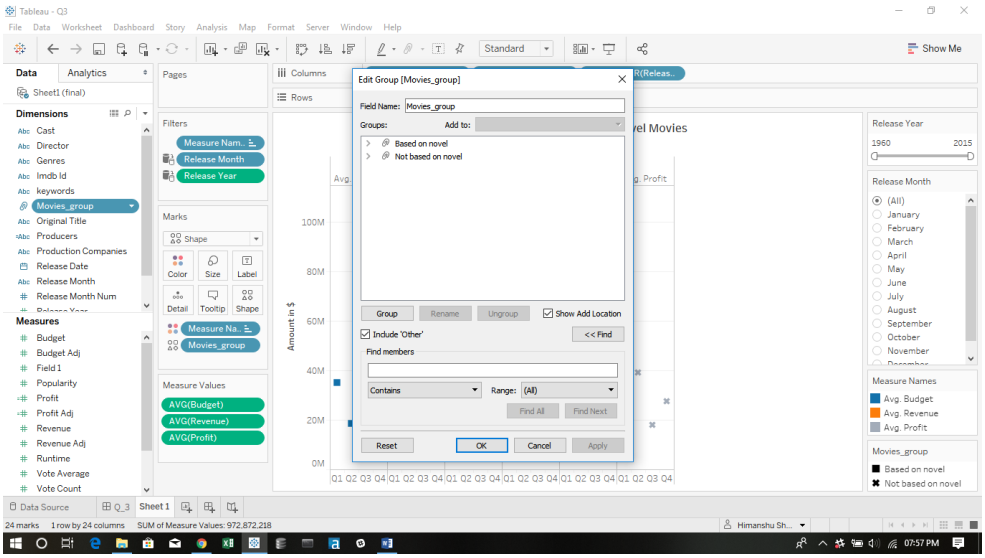
Question -3

➔ https://public.tableau.com/profile/himanshu.sharma3138#!/vizhome/Q3_224/Q_3?publish=yes

Concepts Used-

➔ Visualization 1-

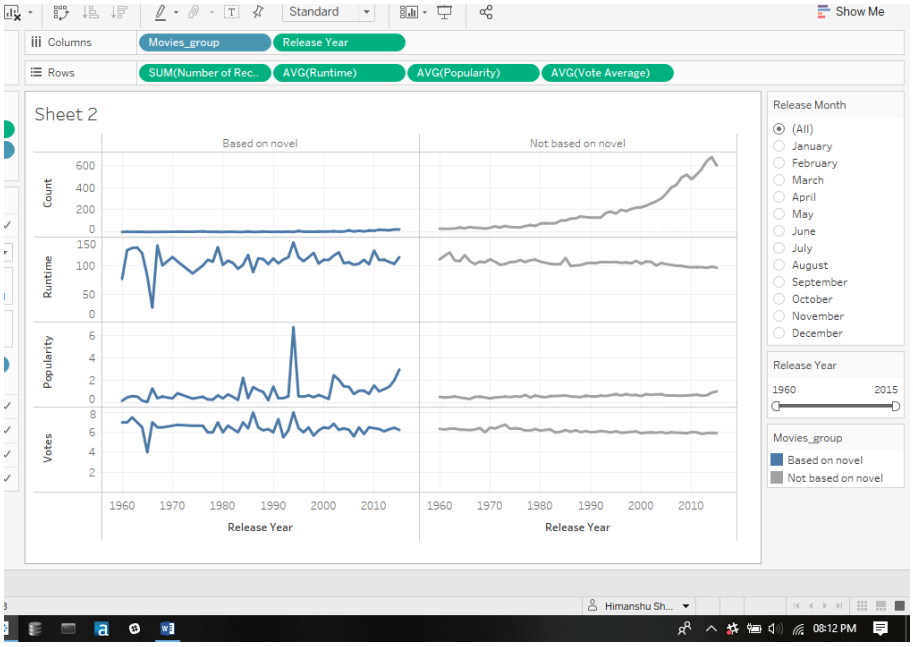
- I have grouped the keywords column into two groups and named the field ‘Movies_group’ using the condition string contains and named the groups as based on novel and not based on novel.



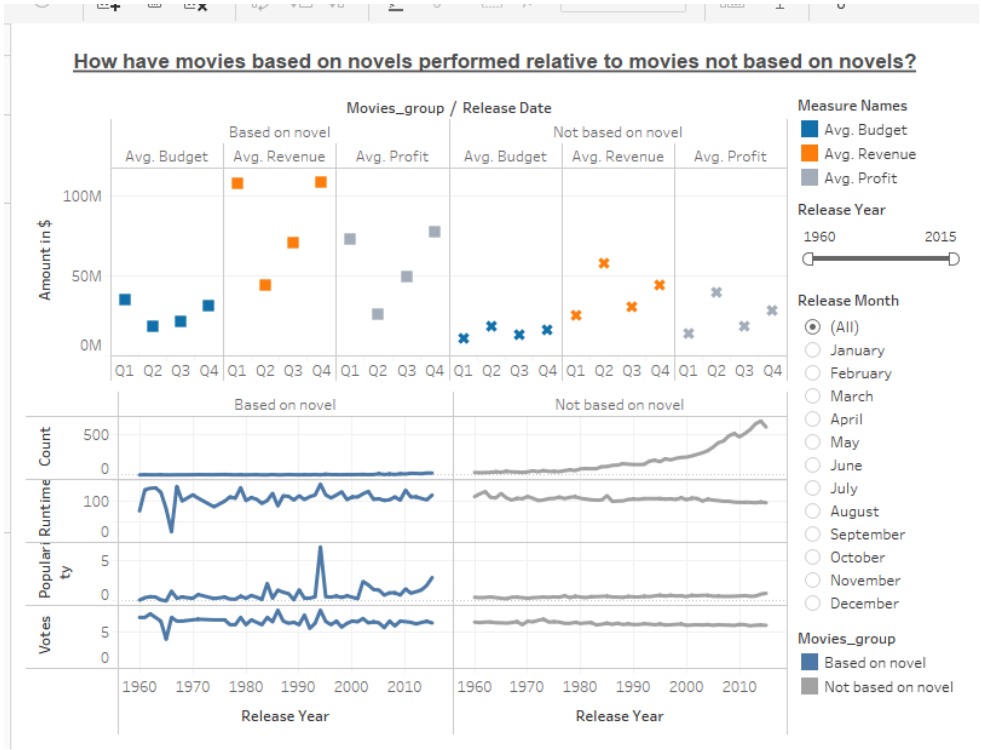
- I have plotted the lines(discrete) plot for the movies_group column againt the avg(budget) , avg(revenue) and avg(profit).
- I have changed the release date to continuos and dragged it to columns and drilled down to year>>quarter and then removed the year measure.
- I have given colour formatting on the basis of measure names.
- I have given shape formatting on the basis of movies_group.
- I have provided a filter for release date and release month.
- Small multiple plots were derived after that.

➔ Visualization 2

- I have plotted the lines(continuous) plot for the total number of records , average runtime , average popularity and average vote_count against the release_year for each movie_group.
- I have provided a filter for release date and release month.
- I have coloured the line plots on the basis of movies_group.



- Final dashboard for question 3



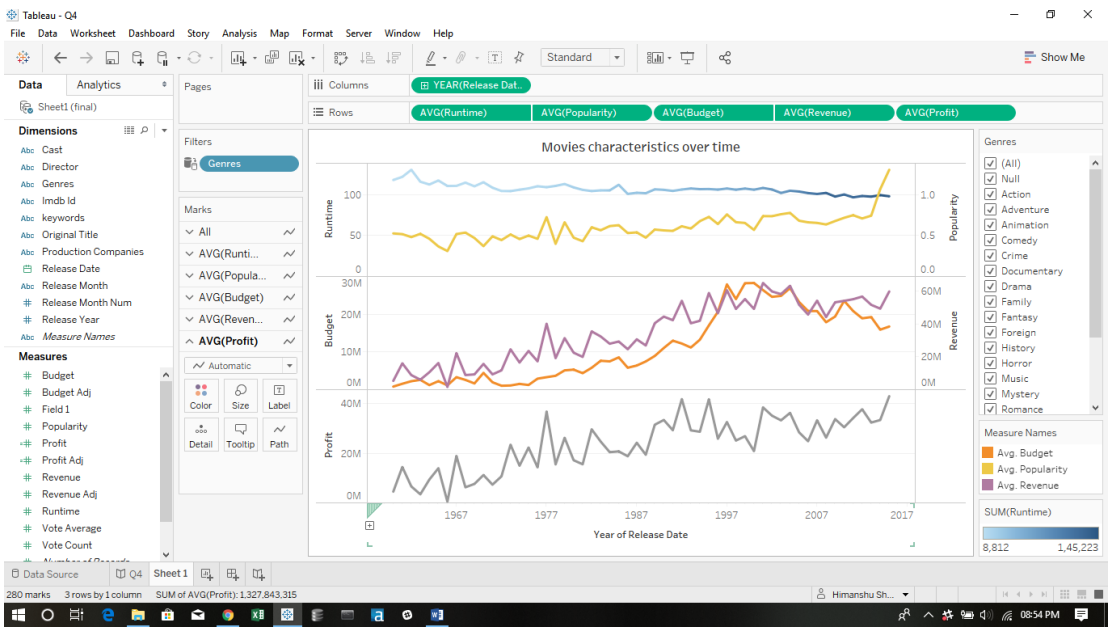
Question -4 (Have the movie trends changed over time ?)

➔ https://public.tableau.com/profile/himanshu.sharma3138#!/vizhome/Q4_197/Q4?publish=yes

Concepts Used-

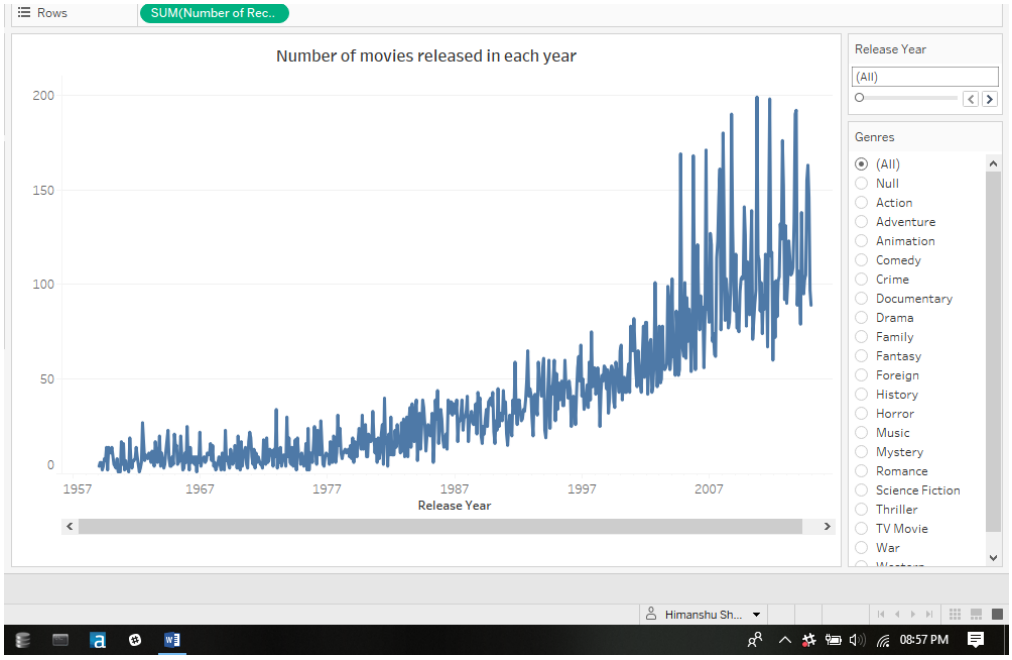
➔ Visualization 1 –

- I have plotted a dual axis line graph for average budget and average budget over time.
- I have also plotted a dual axis graph for runtime and popularity over time.
- I have plotted a line graph for the profit against release years.
- I have given filters for genre_type.



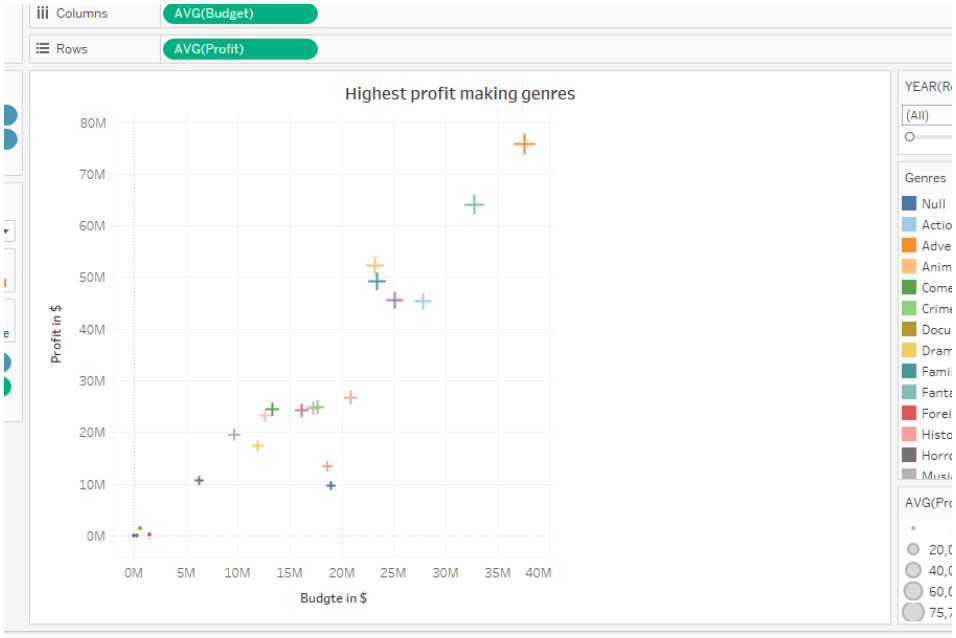
➔ Visualization 2

- I have changed the released date to continuous and added it to columns.
- I have drilled two levels to months.
- I have plotted the number of movies released over by years by plotting against number of records.
- I have provided a filter for genre_type.
- I have provided a filter for release_year.

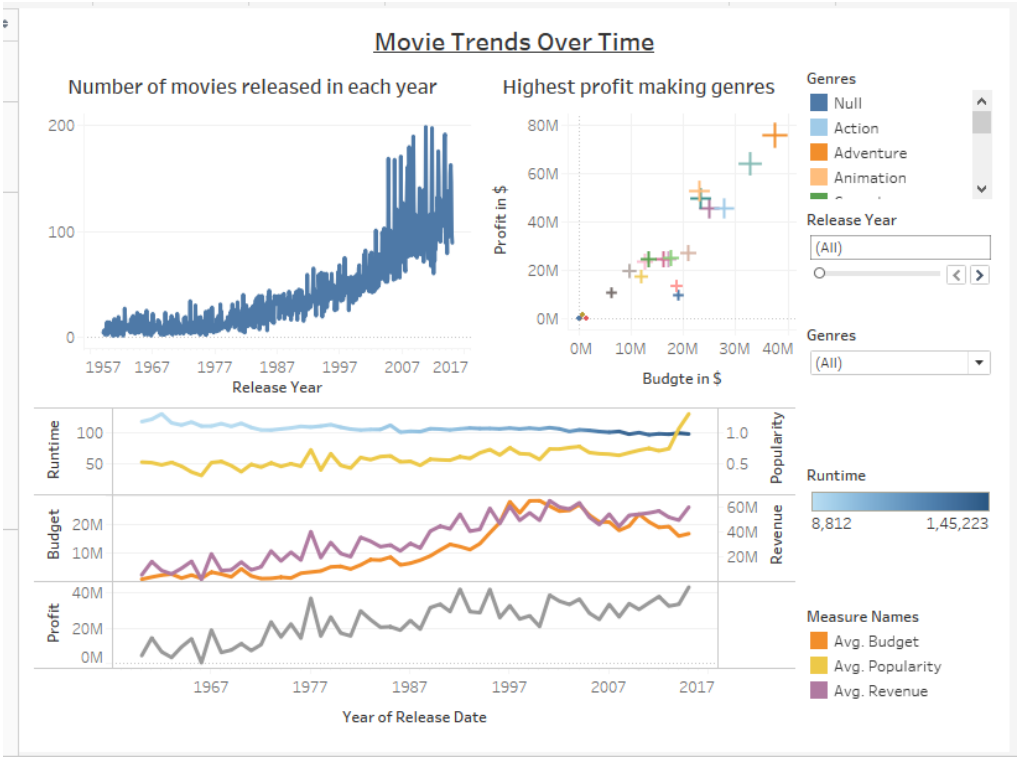


➔ Visualization 3

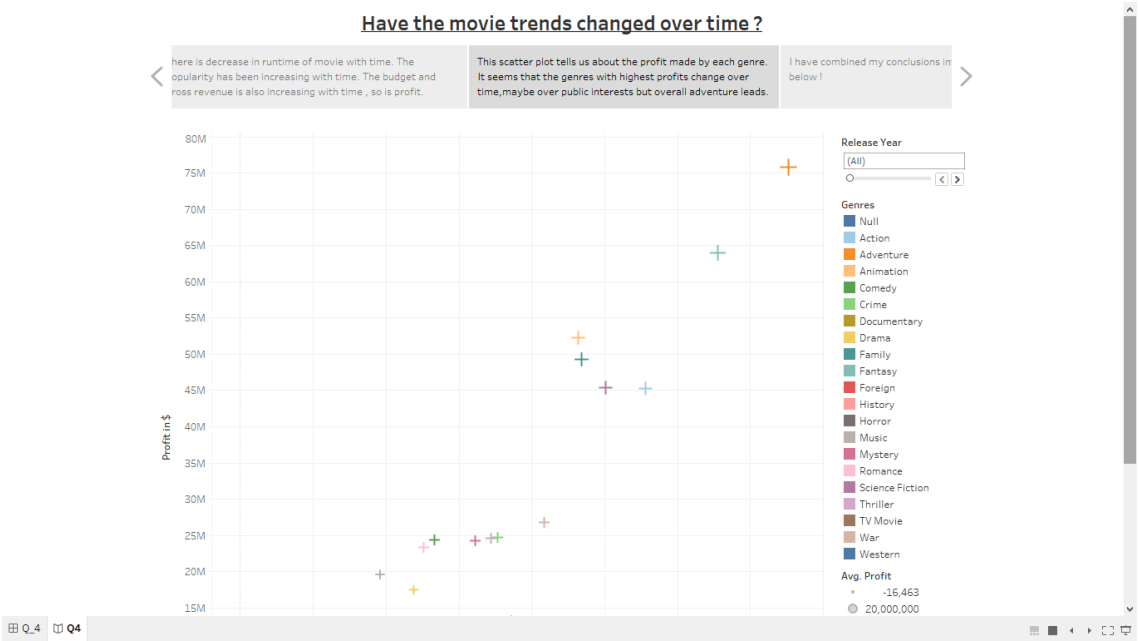
- I have drawn a scatter plot between average_profit and average_budget.
- I have filtered the data by genres.
- I have provided a filter for release_year and genre_type.
- I have given colours with respect to genre_type.
- I have given size with respect to profit amount.



➔ Final dashboard-



➔ I have made a story for this question



Step 3: Questions

- **Question 1:** How have movie genres changed over time?

➔ Yes, the movie genres have changed over time .

- Earlier most popular genres were family, TV movie and action but nowadays adventure, sci fi , action and western genres are more popular.
- In the 1960's most profitable genres were animation, adventure and family. These years almost the same genres are the most profitable but also including action, sci fi and fantasy.
- Comparing with the rest of genres ,movies of drama, comedy , thriller , action and romance are produced the most from the 1980's.

- **Question 2:** How do the attributes differ between Universal Pictures and Paramount Pictures?

- From the 1980's Univeral production company is producing more movies than paramount.
- There is a tough competition for popularity and profit between universal and paramount production companies.
- In the last 3 to 4 years paramount has produced much high budgeted movies as compared to universal.

- **Question 3:** How have movies based on novels performed relative to movies not based on novels?

- The popularity of novel based movies has rapidly increased from the year 2000.
- The number of movies based on novels are very few these years as compared to movies not based on movies.
- These years novel based movies have average runtime of 115 minutes and not novel based have 95 minutes.
- The average votes to both the categories are almost same.
- The movies based on novels have always grossed greater revenue and so have made greater profits then movies not based on novels.

- What is your additional question that you proposed? What is the answer? How did you come up with this question?

➔ My question is '**Have the movie trends changed over time ?**'

According to the visualizations-

- The number of movies released in a year are increasing year by year .
- The average runtime of movies has decreased from 117 minutes to 97 minutes. It seem that people don't like too lengthy movies.
- The popularity of moves have increased from the year 2000.
- The revenue of the movie is already increasing year by year.
- High budgeted movies are being made from the 1980's.
- The profit has been increasing year by year because of the revenue increase.

- In the 1960’s top profit making genres were western, history , war and adventure. But now the trend has changed. Top grossing genres these years are adventure, action, fantasy, family , western and animation.
- In the 1960’s movies average profit was 10-15 million $ but movies have started gaining profit more than 100 million $.