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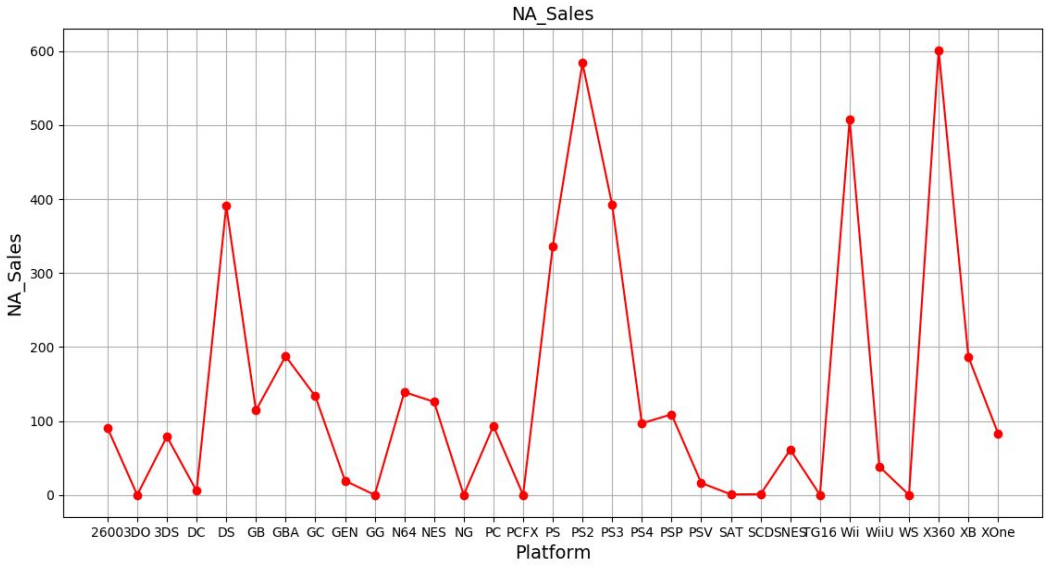
LAB ASSIGNMENT 0 (CIS 660,Fall'19)

Analysis of game data and predicting the best genres and platforms toinvest in for the next year.

After analysing the game data in python and sql most of the platforms and genres were being concentrated only for a particular period of time.So,In the given game data most of the games stopped producing after some years , before early 2000's. So opting the data from the recent years and genres and platforms gives us a clear understanding of current scenario and keeps us track of the latest platforms and genres.So we are going to use game data from years 2010 till 2016.

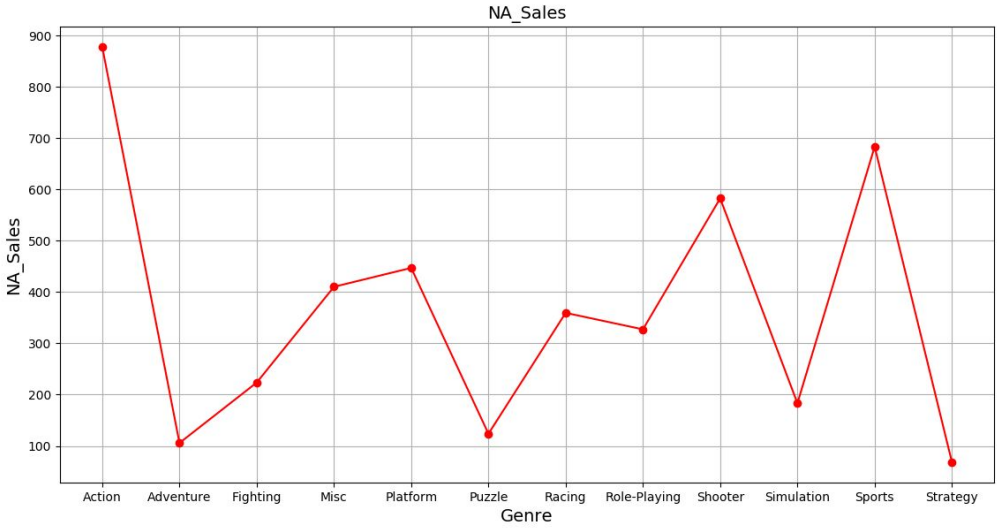
For example let us consider the total values of NA_Sales using the platform from the whole data we



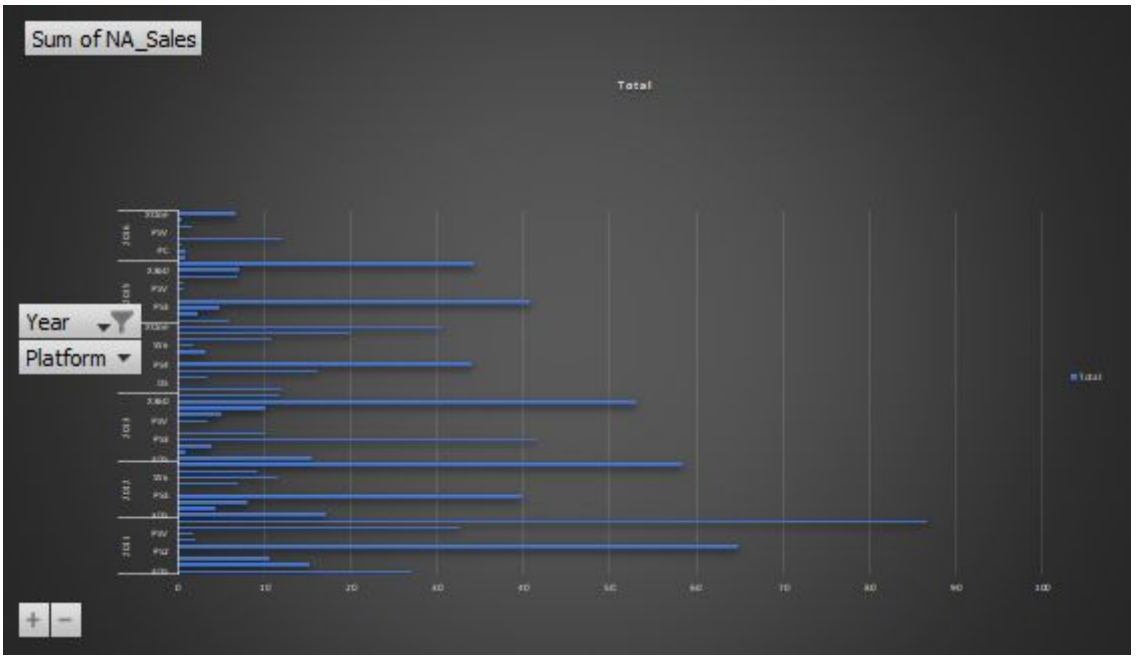
can see that only some platforms are concentrated based on the current market at that particular time.This is the reason for my conclusion to consider the most recent years to be in the market to make profits.And when considering Genre there are few different genres in the game industry and only some of them have been doing great so taking that into consideration I am using the whole genre data from 1980's to keep track the people mindset.Platform is a technology so it is important for us to update but the theme of the game is people's mind set so I am using whole data.

NA_Sales :

Basing on the below graph on the complete data set people are most likely towards Action and Sports in NA.(operation:grouping based on the genre and adding up NA_Sales)

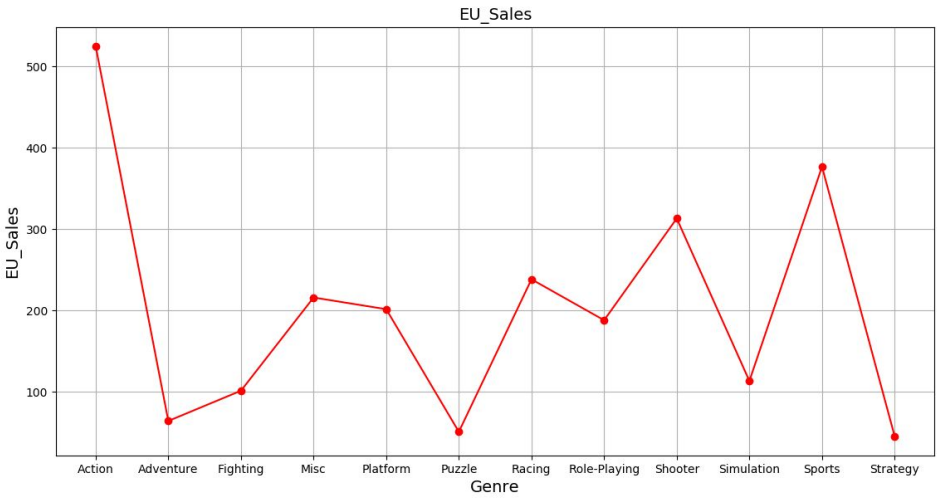


Based on the below graph about the platform for NA_Sales considering PS4 and XONE they both are the main platforms and recently market toppers for the past three years 2013 till 2016 so we can decide that PS4 and XONE would be great to invest in.PS3 has gradually decreases in recent years till 2015 and has seen its zero in 2016.

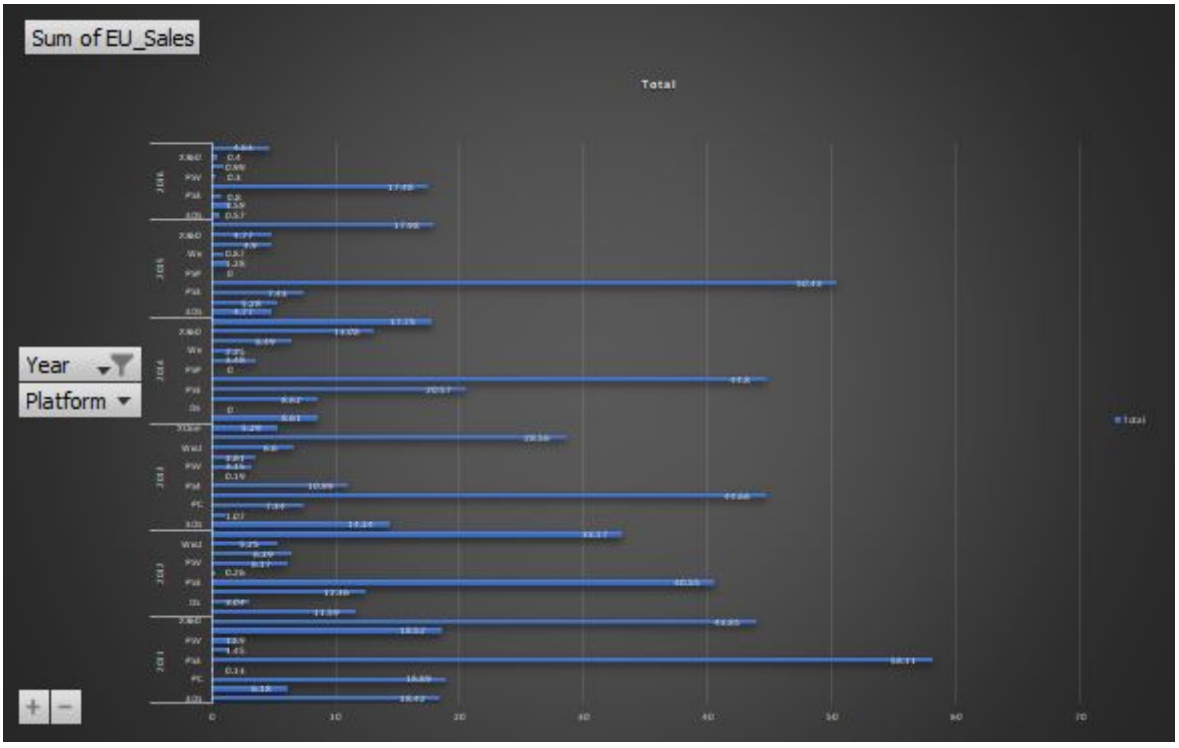


EU_Sales:

By analysing the below graph we can say that Action and Sports genres and doing well and shooter is also very close to Sports so deciding on

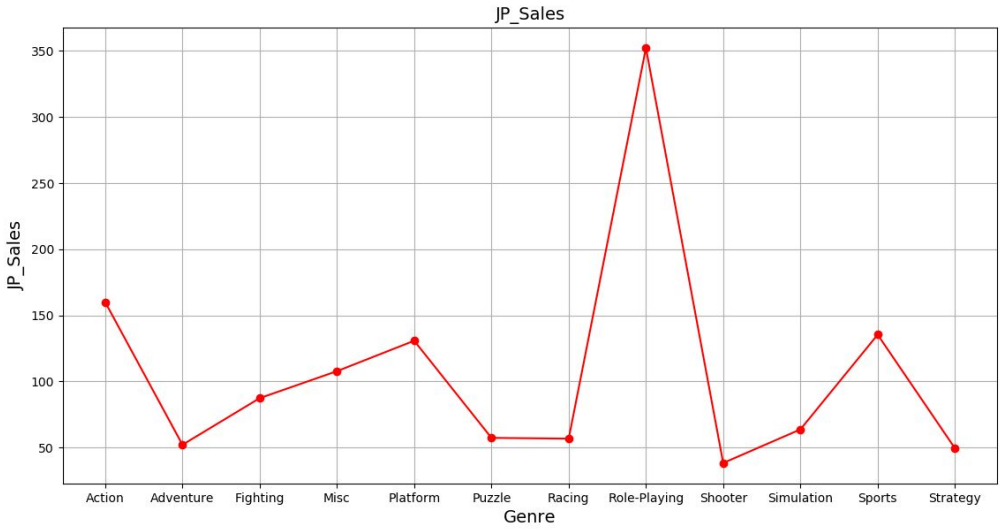


It is evident that PS4 has gradually took the place of PS3 in past couple of years.

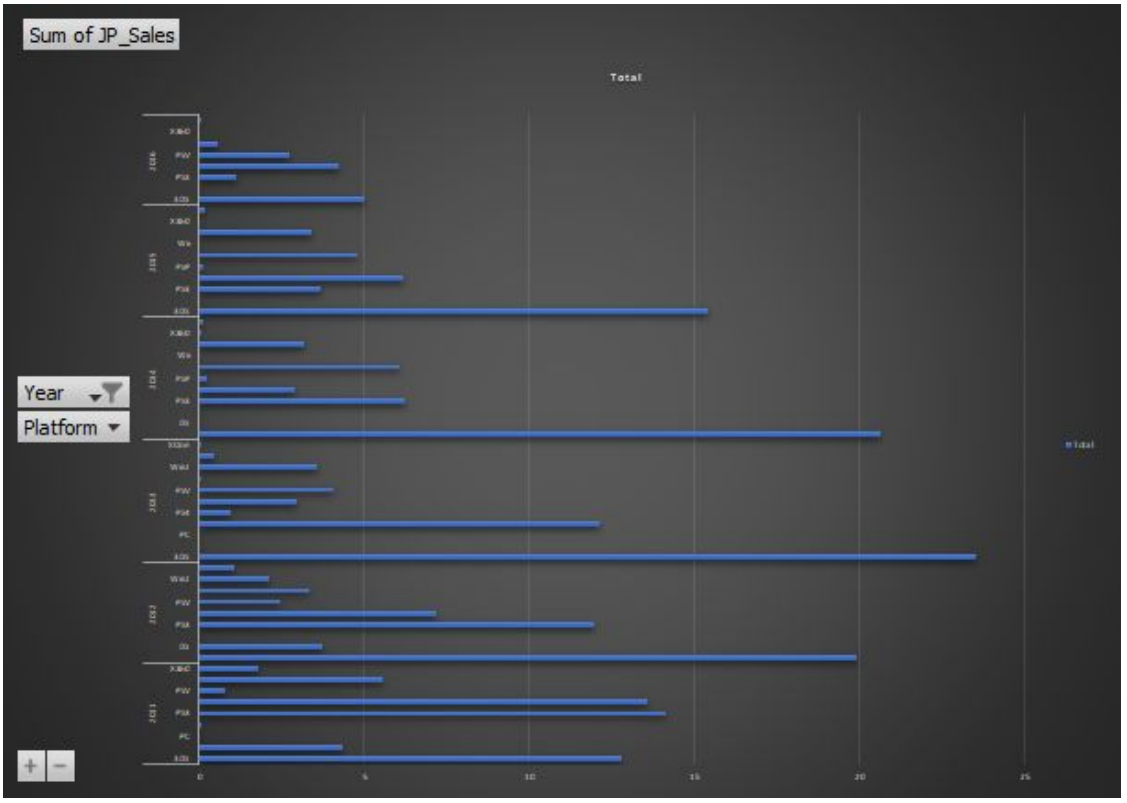


JP_Sales:

Simple speaking Role-Playing games is no where compared to other genres not even two to three difrerent genres add up to Role-Playing.

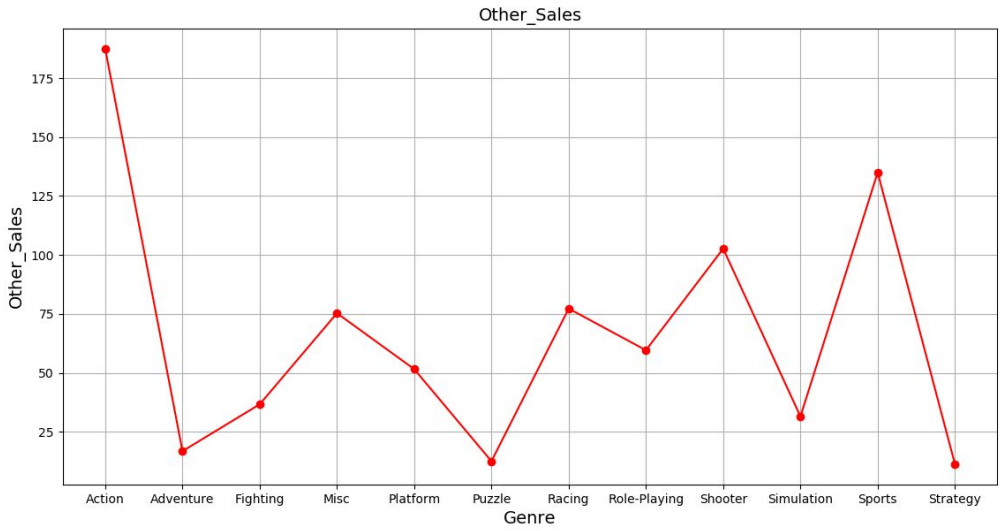


In japan 3DS has been the top platform for past 5 years before 2016 but PS4 is occupying its sales so 3DS and PS4 will stand a good compitetors.

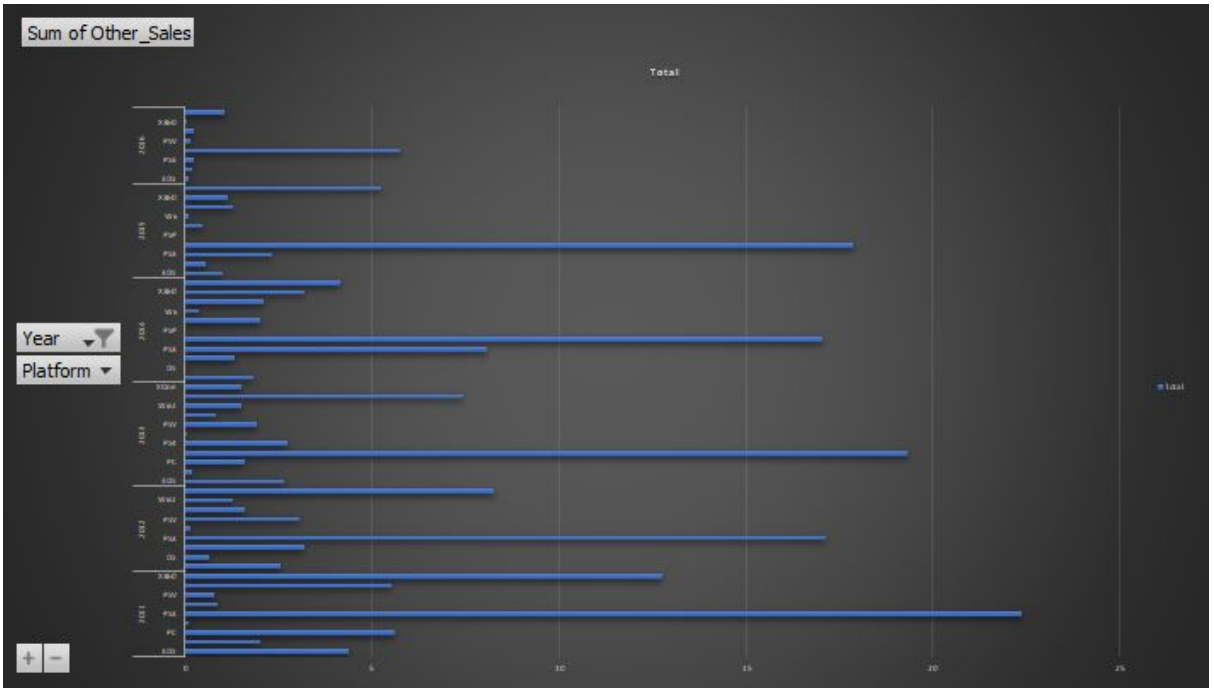


Other_Sales:

Other countries of the world share a similar pattern as EU, we can specify that Action and Sports will do great in other countries.



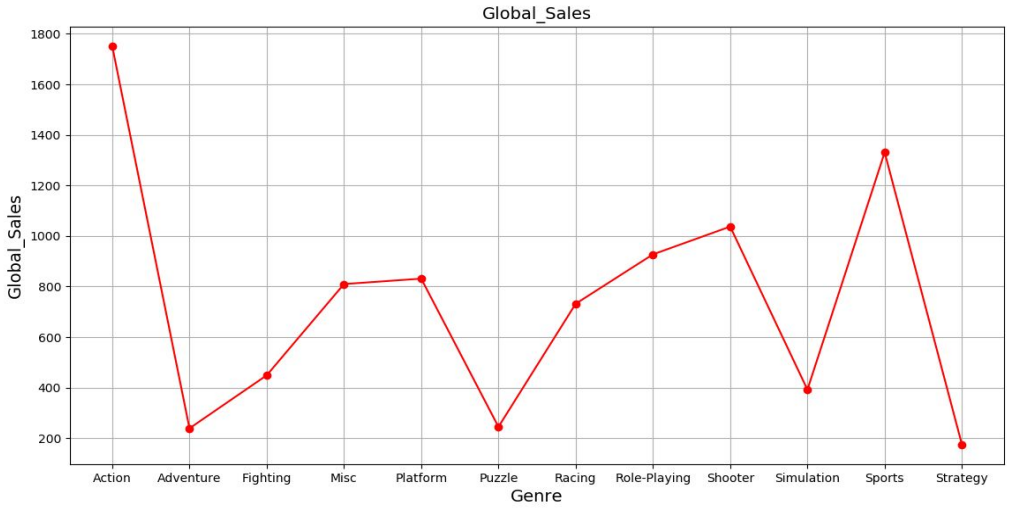
PS4 has been leading for past few years but there has been a fall in the last year PS3 has seen



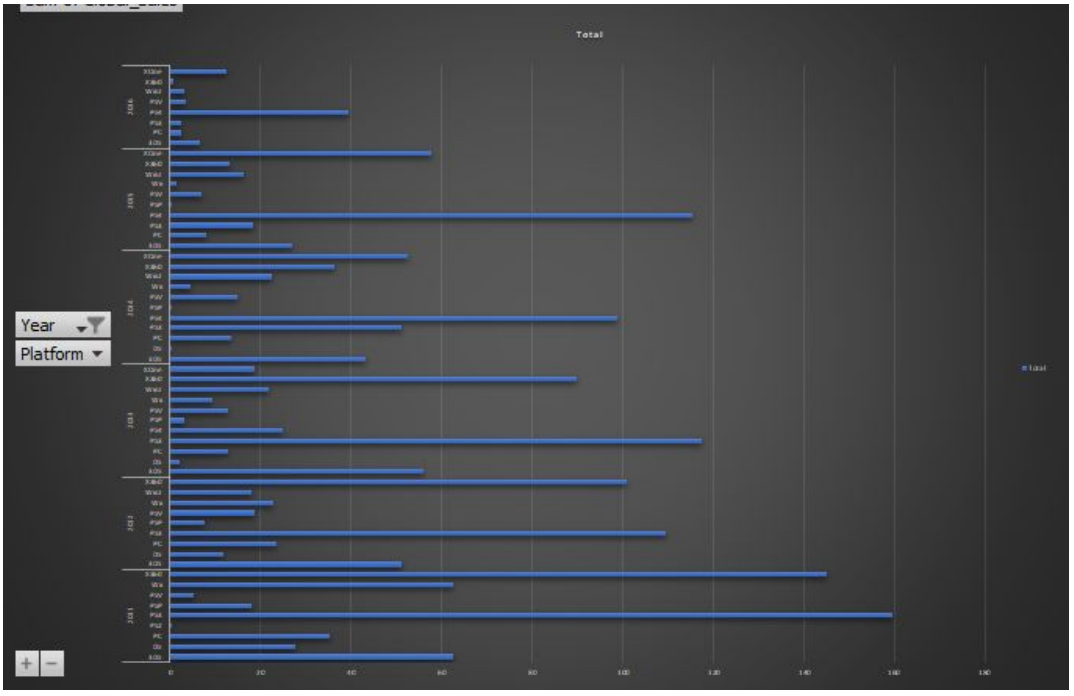
its zero X360 as well XONE has been maintaing its integrity so I feel XONE and PS4.

Global_Sales:

No wonder Action has topped all genres around world but considering the fact that no publisher would like to release only one or two genres Action,Sports Shooter and Role -Playing stand par above the average so these will be good for Global_Sales.



In this PS4 has become the most popular for 3 to 4 years but XONE is also not quite far away from the trending platform.So, Globally PS4 and XONE are good for 2017.



Python Code:

```
#!/usr/bin/python
import pymysql
import matplotlib.pyplot as plt; plt.rcdefaults()
import numpy as np
import matplotlib.pyplot as plt
from functools import reduce
from decimal import Decimal
def str_to_float_with_precision(data):
        precision = 2
        return float(Decimal(data, precision))
Sales_IN = ['NA_Sales','EU_Sales','JP_Sales','Other_Sales','Global_Sales']
# Connect
db = pymysql.connect(host="localhost", user="root",passwd="abc5s3",db="mydb")
cursor = db.cursor()
for index in Sales_IN:
  # Execute SQL select statement
  cursor.execute("SELECT sum({}) FROM `mytable` GROUP BY
`Platform`".format(index))
  sales = cursor.fetchall()
  cursor.execute("SELECT Platform FROM `mytable` GROUP BY `Platform`")
  platform = cursor.fetchall()
  '''The data we retrieve from the sql table is in tuple format for generating
  the graph we use list data so we use reduce function to make the nested listed
  flattered lists'''
  platform = list(reduce(lambda x,y:x+y ,platform))
  sales = list(reduce(lambda x,y:x+y ,sales))
  '''And the generatd list for y-axis is in string of decimal format so converting
  it into list of decimals format'''
  np.round([float(i) for i in sales],2)

  plt.plot(platform, sales, color='red', marker='o')
  plt.title(index, fontsize=14)
  plt.xlabel('Platform', fontsize=14)
  plt.ylabel(index, fontsize=14)
  plt.grid(True)
  plt.show()
for index in Sales_IN:
  # Execute SQL select statement
  cursor.execute("SELECT sum({}) FROM `mytable` GROUP BY
`Genre`".format(index))
```

```
sales = cursor.fetchall()
cursor.execute("SELECT Genre FROM `mytable` GROUP BY `Genre`")
genre = cursor.fetchall()
'''The data we retrieve from the sql table is in tuple format for generating
the graph we use list data so we use reduce function to make the nested listed
flattered lists'''
genre = list(reduce(lambda x,y:x+y ,genre))
sales = list(reduce(lambda x,y:x+y ,sales))
'''And the generatd list for y-axis is in string of decimal format so converting
it into list of decimals format'''
np.round([float(i) for i in sales],2)

plt.plot(genre, sales, color='red', marker='o')
plt.title(index, fontsize=14)
plt.xlabel('Genre', fontsize=14)
plt.ylabel(index, fontsize=14)
plt.grid(True)
plt.show()
```