Technical Blog Machine Learning:

In this section we will talk about the technical side of the machine learning. What we did here is to try to predict the rating of the books that the user will read in the future. As I tried to do choose what we have learned in class, I couldn't get a result of doing linear regression and classification in this specific dataset. The dataset doesn't have a price of each books and classify it by genre as the genre was created manually.

In order to complete this part what I did is I have read different article regarding prediction of rating. I have found that we will choose SVD which stand for Singular-Value Decomposition. Singular-Value Decomposition is a factorization of a real or complex matrix. In our case, we will predict for every user on how he will rate the books depending of the other user prediction.

As I was loading my Pivot rating in the VM ware I had MemoryError:

Pivot Rating

```
In [9]: Ratings = ratings.pivot(index = 'user_id', columns ='book_id', values = 'rating').fillna(0)
        Ratings.head()

---------------------------------------------------------------------------
MemoryError                               Traceback (most recent call last)
<ipython-input-9-4a459dc1c46c> in <module>()
----> 1 Ratings = ratings.pivot(index = 'user_id', columns ='book_id', values = 'rating')
      2 Ratings.head()

~/anaconda3/lib/python3.6/site-packages/pandas/core/frame.py in pivot(self, index, columns, values)
   4380         """
   4381         from pandas.core.reshape.reshape import pivot
-> 4382         return pivot(self, index=index, columns=columns, values=values)
   4383
   4384     _shared_docs['pivot_table'] = """

~/anaconda3/lib/python3.6/site-packages/pandas/core/reshape/reshape.py in pivot(self, index, columns, values)
    387         indexed = Series(self[values].values,
    388                          index=MultiIndex.from_arrays([index, self[columns]]))
--> 389         return indexed.unstack(columns)
    390
    391

~/anaconda3/lib/python3.6/site-packages/pandas/core/series.py in unstack(self, level, fill_value)
   2222         """
   2223         from pandas.core.reshape.reshape import unstack
-> 2224         return unstack(self, level, fill_value)
```