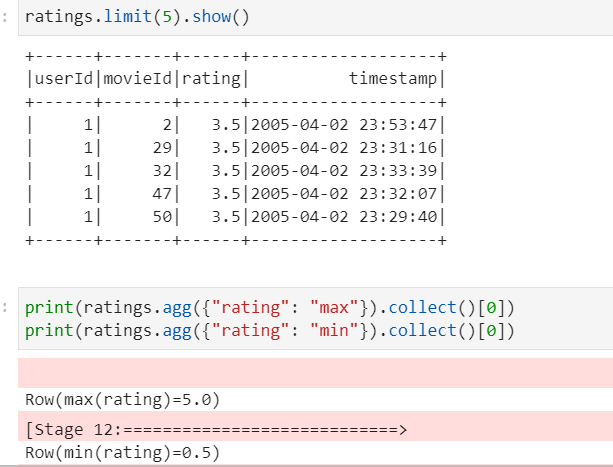
# ALS Algorithm

## Import Lib and init spark

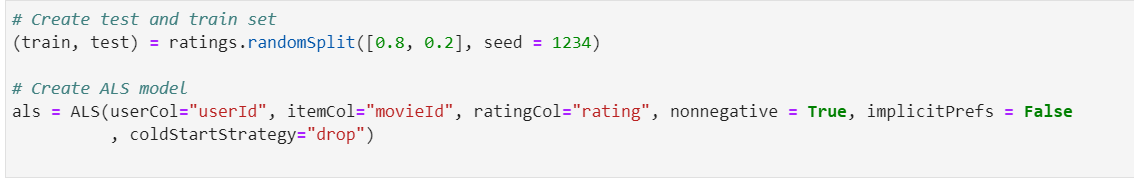


## Read data:

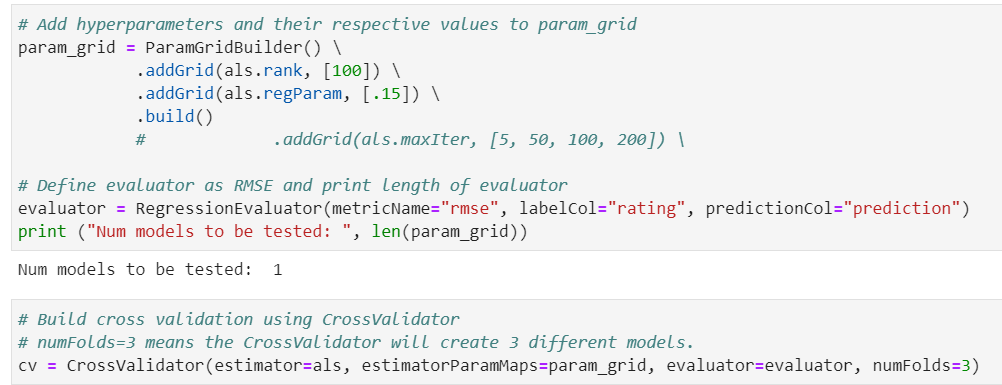




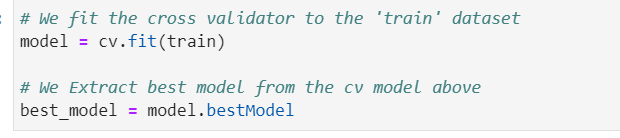
## Create test, train set and als model



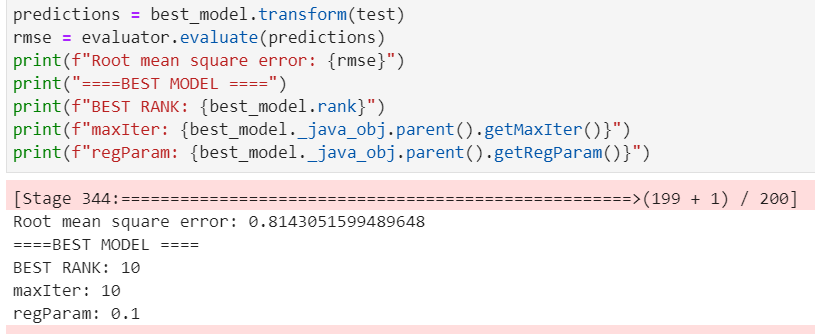
## Add hyperparameters and build cross validation



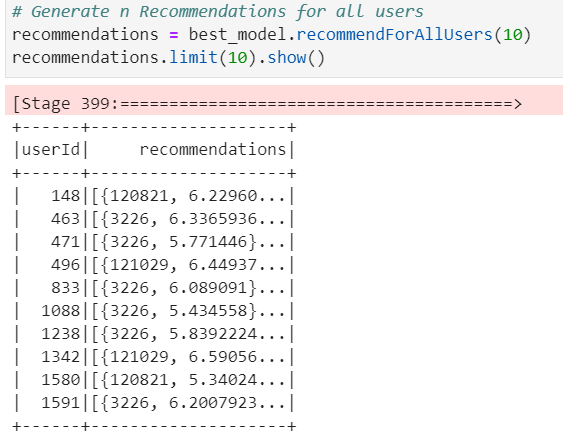
## Fit Model and get best model



## Calculate RMSE



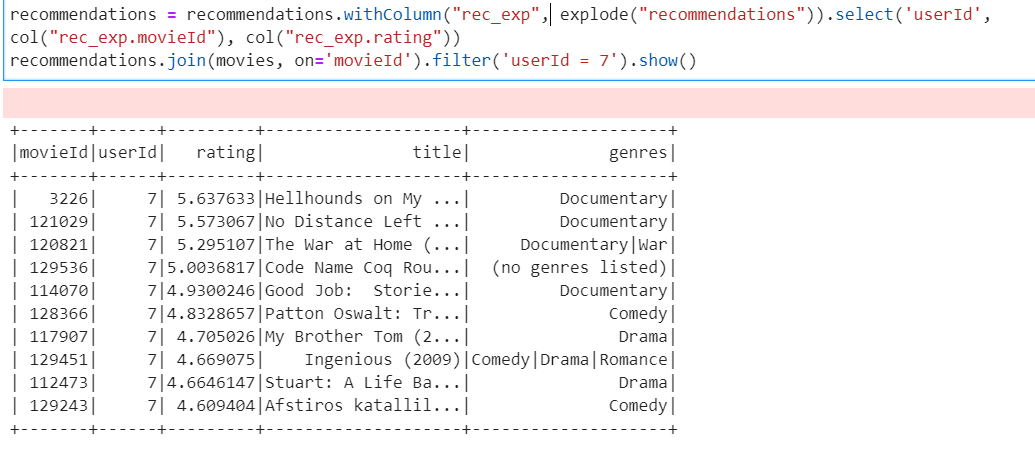
## Recommend movies for all users



## Find 7th User’s Actual Preference:



## Recommend film for 7th user

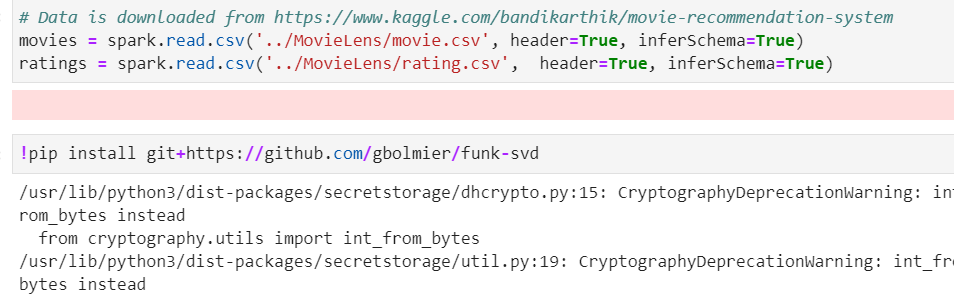


# SVD Algorithm

## Import Lib and init spark, dask



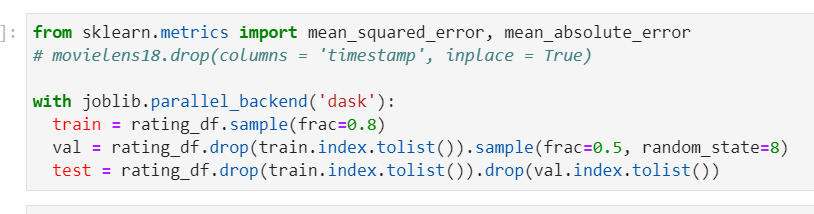
## Read data and install funk-svd lib



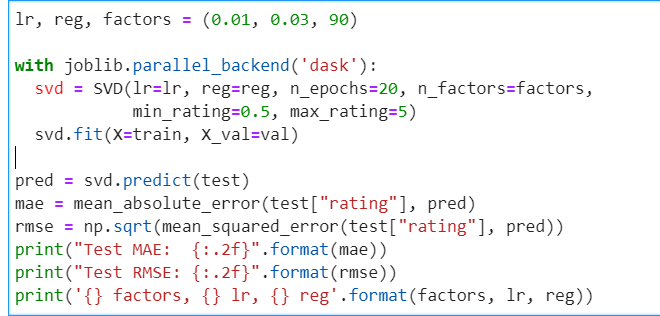
## Convert pyspark dataframe to pandas dataframe

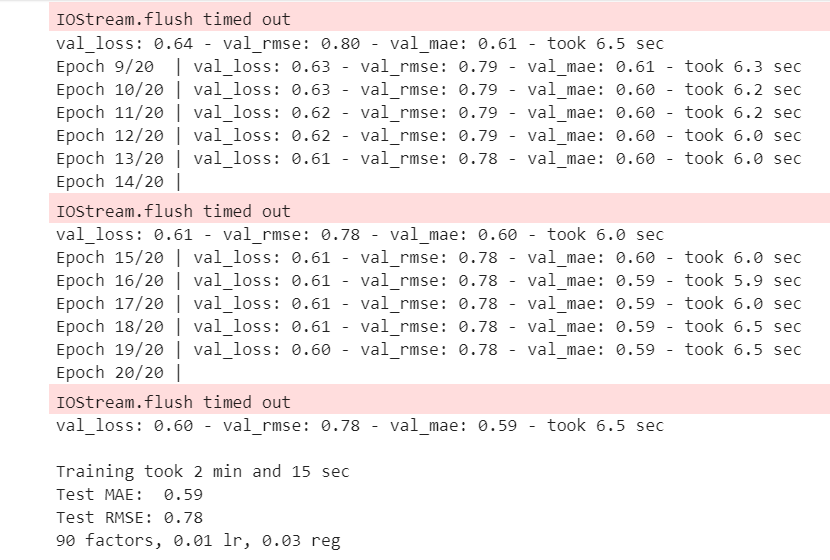


## Split data to train, test, validate set



## Fit Model





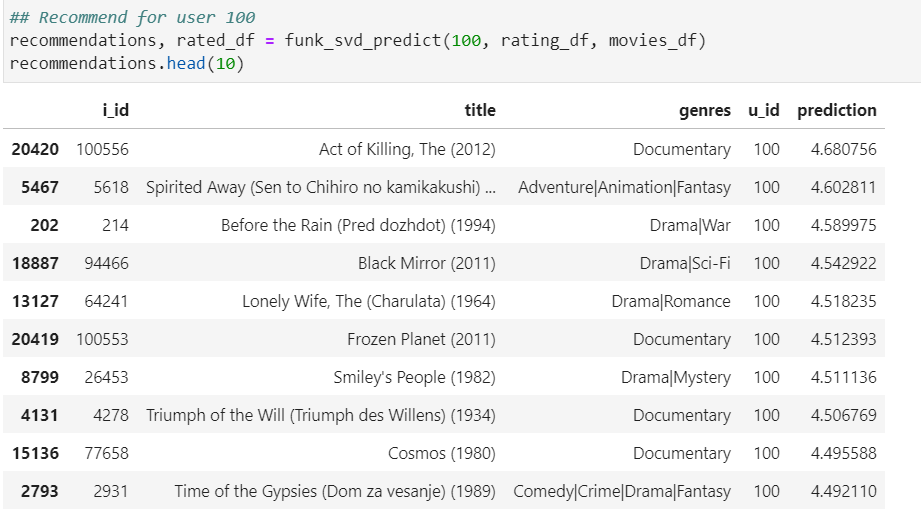
## Function to recommend movies:



## Find 100th User’s Actual Preference:



## Recommend film for 100th user



# KNN Algorithm

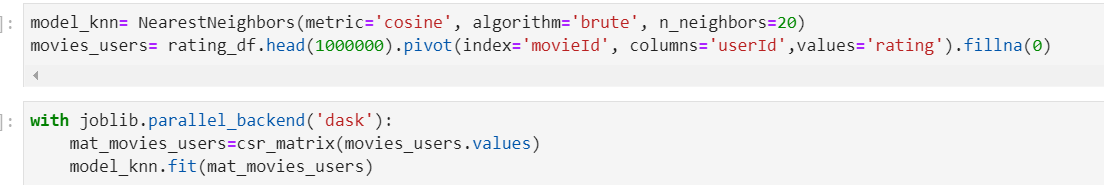
## Import Lib and init spark, dask



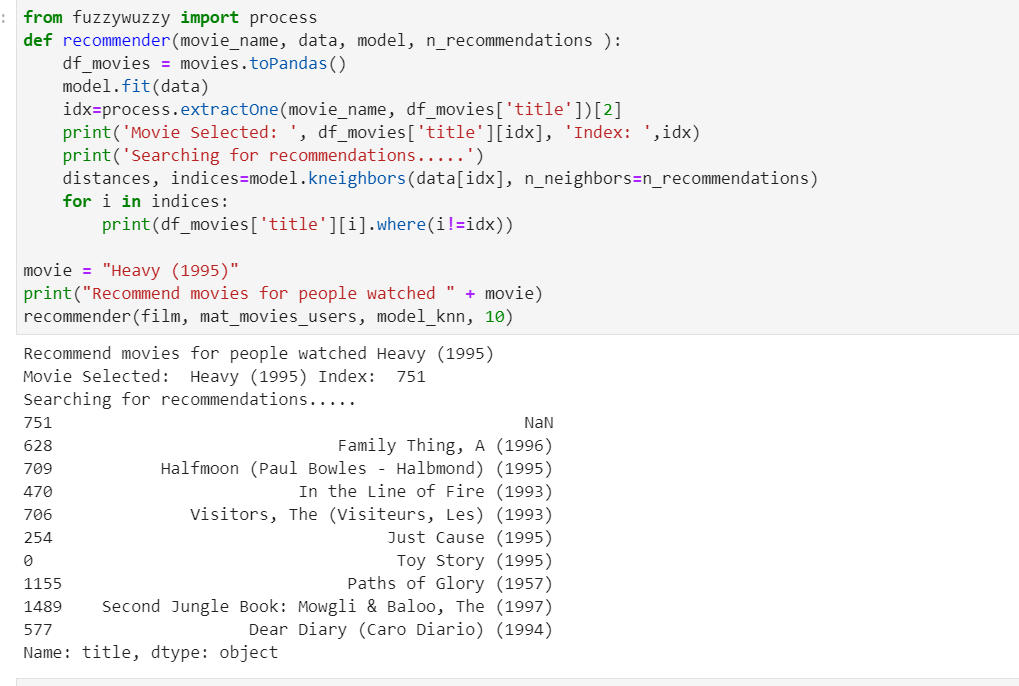
## Read data and convert pyspark dataframe to pandas dataframe:



## Build And Fit Model



## Recommend Movies



# Cosine similarity and Jaccard similarity

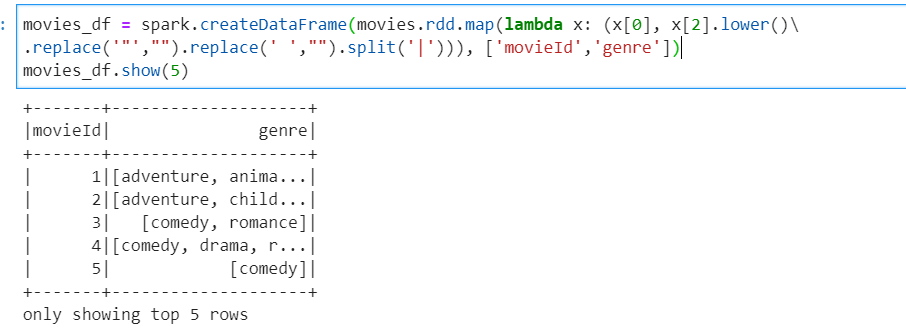
## Import Lib and init spark

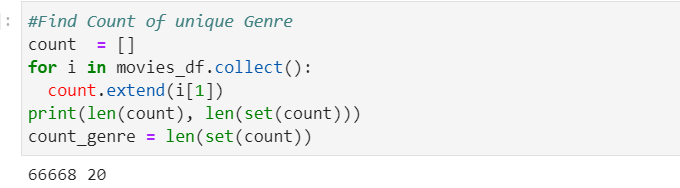


## Read data:

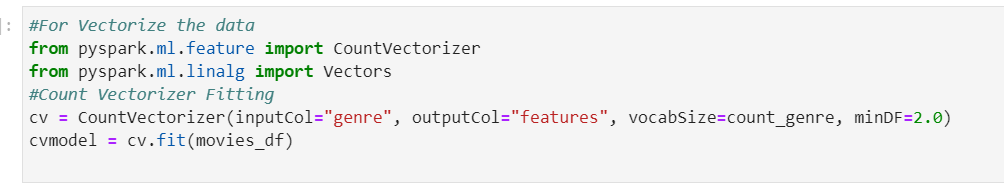


## Create new movies dataframe and change split genre to list from genres

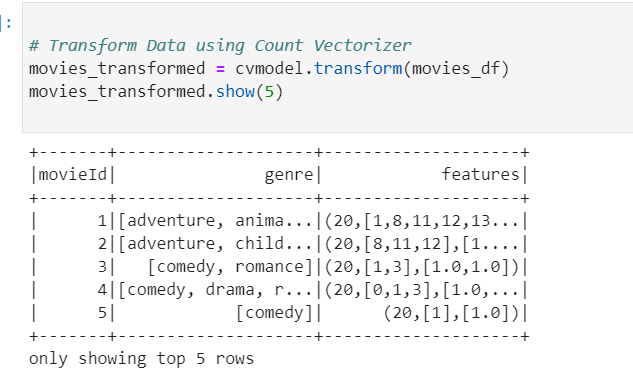
  
Find Count of unique genre



## Vectorize the data and fit model



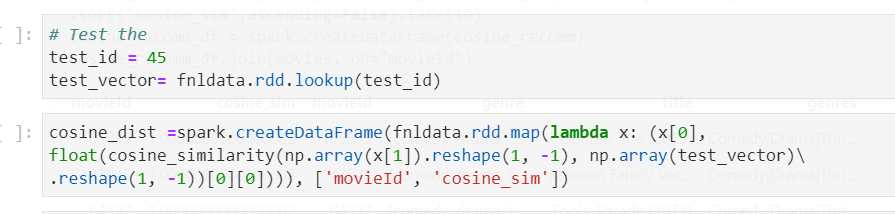
## Transform Data using Count Vectorizer



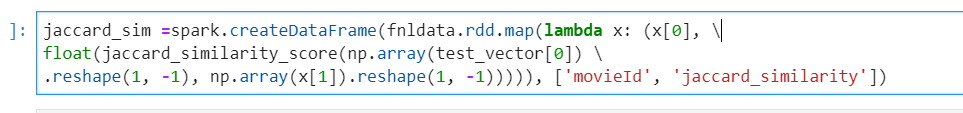
## Convert Sparse Vector to Dense



## Calculate Cosine similarity:

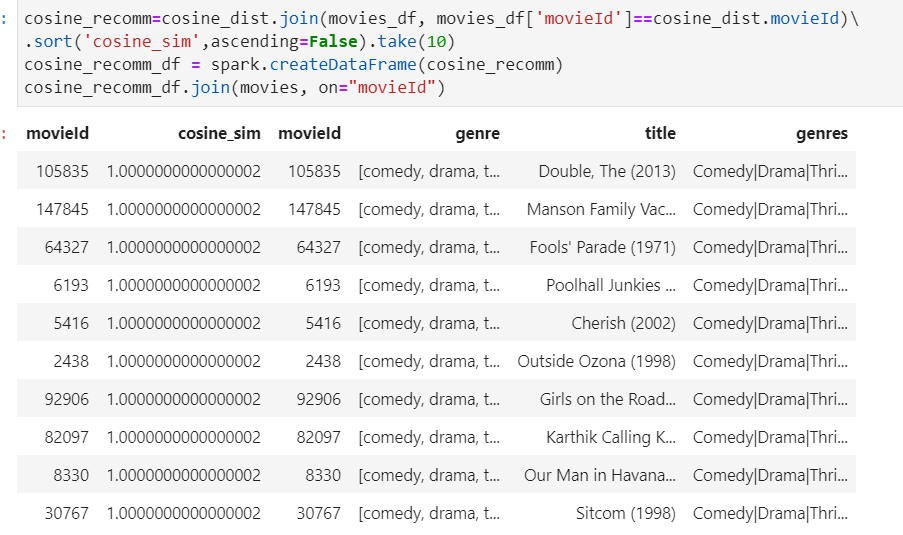


## Calculate Jaccard similarity:



## Recommend movies for viewer who watched movie with movieId = 45

### Cosine recommend:



### Jaccard recommend

