**Python Project Report**

Task 2:

* In task 2 we had to find the cosine similarity between two directors, which is basically a similarity between two vectors in a product space. In our context it measures the similarity between two chosen directors.
* In our program we ask user to input any two directors of their choice, I have selected set of Francis Ford Coppola & Martin Scorsese to find out similarity between them.
* So, the actors that have worked most with Francis Ford Coppola are Robert Duvall working in 4 movies, Marlon Brando and GD. Spradlin working in 3 movies each, Al Pacino, Diane Keaton in 2 movies etc.
* Francis Ford Coppola has given some iconic movies like The Godfather series, Apocalypse Now, Lost in Translation etc. While Francis Ford does not repeat his cast much, he cast Robert Duvall the most during his career in filmmaking
* The actors Martin Scorsese has most worked with are Robert De Niro in 5 movies, Harvey Keitel in 4, Victor Argo and Joe Pesci in 3, Albert Brooks etc. Martin Scorsese has directed some famous movies such as The Irishman, Life Itself, Uncut Gems.
* Robert De Niro seems to have cast by Martin Scorsese as primary cast in 9 movies till now, 4 apart from top 500. Their combination is often called as the Hollywood’s greatest collaboration.
* Coming to similarity, our program gives them a similarity score of 0.0505, indicating they are having a little similarity but not high.
* The common actors they have worked are Al Pacino, Robert De Niro, Frank Sivero

Task 3:

* In task 3 we pick 5 of out favorite actors/actresses and search for the most popular supporting cast. My top 5 picks are

1. Robert De Niro: Harvey Keitel worked in 4 movies with Robert De Niro being the most worked with, followed by Victor Argo, Jack Huston, Joe Pesci appearing in 3 movies.
2. Al Pacino: John Cazale appears to be the most famous supporting actor who has worked with Al Pacino in 3 movies.
3. Robert Duvall: The supporting actors worked most with Robert Duvall are Marlon Brando and GD. Spradlin.
4. Rudy Bond: Marlon Brando, Lee J. Cobb have appeared in most movies Rudy Bond has worked in.
5. Karl Malden: Marlon Brando and Rudy Bond are the most famous supporting cast appeared with Karl Malden appearing in 2 movies each.

* Among these supporting cast members, Marlon Brando has appeared with 3 of the chosen actors in 9 movies, making him the most famous supporting actor in the top 500 movies.
* Some of famous movies he has worked in are The Godfather, A streetcar named desire etc.
* Followed by John Cazale :7, Harvey Keitel: 6, Diane Keaton: 6, Talia Shire: 6 etc.