**Project 1: IMDb Movies Analysis using SQL**

Bolly Movies, an Indian film production company, has a successful track record of producing numerous blockbuster films. While primarily catering to the Indian audience, they have decided to venture into the global market with their upcoming project scheduled for release in 2022.

Objective:

Recognizing the value of data-driven decision-making, Bolly Movies has enlisted your expertise as a data analyst and SQL specialist. The objective of this case study is to analyse the movie dataset using SQL queries and extract valuable insights to guide Bolly Movies in planning their new project. The analysis will cover various aspects such as table exploration, movie release trends, production statistics, genre popularity, ratings analysis, crew members, and more.

Segment 1: Database - Tables, Columns, Relationships

* What are the different tables in the database and how are they connected to each other in the database?
* Find the total number of rows in each table of the schema.
* Identify which columns in the movie table have null values.

Segment 2: Movie Release Trends

* Determine the total number of movies released each year and analyse the month-wise trend.
* Calculate the number of movies produced in the USA or India in the year 2019.

Segment 3: Production Statistics and Genre Analysis

* Retrieve the unique list of genres present in the dataset.
* Identify the genre with the highest number of movies produced overall.
* Determine the count of movies that belong to only one genre.
* Calculate the average duration of movies in each genre.
* Find the rank of the 'thriller' genre among all genres in terms of the number of movies produced.

Segment 4: Ratings Analysis and Crew Members

* Retrieve the minimum and maximum values in each column of the ratings table (except movie\_id).
* Identify the top 10 movies based on average rating.
* Summarise the ratings table based on movie counts by median ratings.
* Identify the production house that has produced the most number of hit movies (average rating > 8).
* Determine the number of movies released in each genre during March 2017 in the USA with more than 1,000 votes.
* Retrieve movies of each genre starting with the word 'The' and having an average rating > 8.

Segment 5: Crew Analysis

* Identify the columns in the names table that have null values.
* Determine the top three directors in the top three genres with movies having an average rating > 8.
* Find the top two actors whose movies have a median rating >= 8.
* Identify the top three production houses based on the number of votes received by their movies.
* Rank actors based on their average ratings in Indian movies released in India.
* Identify the top five actresses in Hindi movies released in India based on their average ratings.

Segment 6: Broader Understanding of Data

* Classify thriller movies based on average ratings into different categories.
* analyse the genre-wise running total and moving average of the average movie duration.
* Identify the five highest-grossing movies of each year that belong to the top three genres.
* Determine the top two production houses that have produced the highest number of hits among multilingual movies.
* Identify the top three actresses based on the number of Super Hit movies (average rating > 8) in the drama genre.
* Retrieve details for the top nine directors based on the number of movies, including average inter-movie duration, ratings, and more.

Segment 7: Recommendations

* Based on the analysis, provide recommendations for the types of content Bolly movies should focus on producing.

The below questions are not a part of the problem statement but should be included after the their completion to test their understanding:

* Determine the average duration of movies released by Bolly Movies compared to the industry average.
* Analyse the correlation between the number of votes and the average rating for movies produced by Bolly Movies.
* Find the production house that has consistently produced movies with high ratings over the past three years.
* Identify the top three directors who have successfully delivered commercially successful movies with high ratings.

Evaluation pointers:

* The tasks are correctly identified and executed.
* The solution output matches the expected output.
* The query is optimised and syntactically correct.
* Proper aliases are used
* If required any, appropriate comments are written.
* The code is written concisely with appropriate indentations.

Indian film production company have decided to venture into the global market and need suggestions on their new movies for Global Audience

The analysis was conducted using SQL queries to extract and manipulate data from the database. Various aggregations, joins, and filtering techniques were applied to answer specific questions about movie releases, genres, ratings, crew members, and other relevant insights for content production and global market focus.

Strategic recommendations based on the analysis:

1. Prioritize genres like Adventure, Sci-fi, Fantasy, and Action with sufficient budget for global appeal. When budget is limited, focus on Drama, Comedy, and Thriller due to their high movie production count.
2. Optimize movie releases by focusing on single-language releases, unless targeting a significant multilingual market. Prioritize English and Mandarin languages for higher revenue generation.
3. Produce movies with an average duration between 121 to 150 minutes to maximize global income, considering the audience preferences.
4. Collaborate with top-grossing production houses such as Alibaba Pictures, Tianjin Chengzi Yingxiang Media, and Skydance Media to enhance movie production success.
5. Strategically target movie releases in China and USA, where average total gross income is considerably higher, while tailoring productions to resonate with these specific target audiences.

Problem Statement: A recruitment company needs to gain actionable insights from the layoffs analysis to effectively navigate the job scenario, identify potential challenges, and leverage opportunities in the current job market and during recovery stage

Analysis Statement: The layoffs analysis was conducted using pandas, Matplotlib, Seaborn, and Numpy to explore trends in company layoffs, country-wise contributions, sector-wise impacts, and the timeline of layoffs. The goal is to provide strategic recommendations for the recruitment company based on these findings.

1. Company Focus: Amazon and Meta and other big Post IPO companies have seen the highest number of layoffs.Targeting these companies for recruitment solutions during recovery may provide opportunities to assist in their workforce restructuring and future hiring needs.
2. Geographical Targeting: Given the considerable layoffs in the United States and India the recruitment company can focus efforts on understanding the specific job market challenges in the country and offer tailored services to address the job scenario.
3. Sector-Specific Approach: As the Consumer Industry and Retail Sector have experienced the highest layoffs, the recruitment company can develop targeted strategies to assist companies in these sectors with their hiring needs during recovery.
4. Seasonal Variation Awareness: Acknowledge the peak in layoffs between September 2022 and January 2023..
5. Funding Stage Sensitivity: Recognize the vulnerability of companies with seed level funding and Series A funding to layoffs.
6. India Market Strategy: In India, Education and Transportation sectors have seen the highest number of layoffs.

By understanding the challenges as mentioned above the recruitment company can offer tailored, flexible and adaptive services to support their hiring processes and help them navigate challenging times

Using tools such as MS Excel, MS PowerPoint, and the ERP Portal (Wrench), the project involved collecting, verifying, cleaning, and preparing data for detailed analysis and visualization.

The analysis aimed to assess vendor performance across various aspects, including financial stability, quality

**Problem Statement:** The objective of this project was to conduct an in-depth analysis and visualization of technical pre-qualification data from vendors performance, compliance history, and risk exposure

**Analysis Statement:** The analysis revolved around assessing vendor performance based on technical pre-qualification data obtained through structured questionnaires. The data was carefully verified, a thorough cleaning and preparation process was done. Key aspects of vendor performance, such as financial stability, quality, compliance, and risk exposure, were analyzed using appropriate methodologies. To facilitate decision-making and comparison, risk scoring matrices were developed. The results were presented in the form of comparative charts and graphs using visualization tools.

**Insights and Results:**

1. Vendor Performance Assessment: The analysis provided valuable insights into the performance of vendors based on technical pre-qualification data. Areas of strength and improvement were identified, aiding vendor selection and management processes.
2. Risk Exposure Analysis: By developing risk scoring matrices, the project enabled better risk assessment and management, allowing stakeholders to make informed decisions while engaging with vendors.
3. Compliance History Evaluation: The analysis assessed vendor compliance history, providing crucial information to ensure adherence to regulatory requirements and industry standards.
4. Financial Stability Insights: Understanding the financial stability of vendors helped mitigate financial risks and establish long-term partnerships with reliable suppliers.
5. Quality Performance Evaluation: Through data visualization, the project allowed for a comprehensive evaluation of vendor quality performance, leading to enhanced product and service quality assurance.
6. Data-Driven Decision Making: The project's findings empowered stakeholders to make data-driven decisions, improving the efficiency and effectiveness of vendor selection and management processes.

By leveraging MS Excel, MS PowerPoint, and the ERP Portal (Wrench) for data handling, workflows, analysis, and visualization, this project delivered actionable insights to optimize vendor management and strengthen business partnerships.