Social Media Dataset Analysis Tasks

Task 1: Total Number of Authors and Videos

Objective: Count unique authors and the total videos.

Instructions:

1. Count the unique authors (AuthorID) and the total number of videos.
2. Write the result to a file named author_video_counts.csv:

   Total Authors: [totalAuthors]
   Total Videos: [totalVideos]

Task 2: Average Likes per Video

Objective: Calculate the average likes per video to understand engagement levels.

Instructions:

1. Compute the average number of likes across all videos.
2. Write this to a file named average_likes_per_video.csv:

   Average Likes per Video: [averageLikes]

Task 3: Top 5 Most Viewed Videos

Objective: Identify the most viewed videos by ranking.

Instructions:

1. Sort videos by ViewCount in descending order and select the top 5.
2. Write the result to a file named top_5_most_viewed_videos.csv, including VideoID, AuthorID, and ViewCount for each video:

   VideoID: [VideoID], AuthorID: [AuthorID], View Count: [ViewCount]

Task 4: Top 10 Videos by Comment-to-Like Ratio

Objective: Identify videos with the highest comment engagement relative to likes.

Instructions:

1. Calculate the comment-to-like ratio for each video as follows: **Comment-to-Like Ratio = commentCount / LikesCount**
2. Store each video's VideoID, AuthorID, and Comment-to-Like Ratio in an ArrayList.
3. Sort the list by comment-to-like ratio in descending order using a lambda expression.
4. Write the top 10 videos to a new file (named as you like) in the following format:

   VideoID: [VideoID], AuthorID: [AuthorID], Comment-to-Like Ratio: [commentToLikeRatio]

Task 5: Average and Median Views

Objective: Calculate the average and median number of views across all videos.

Instructions:

1. Store the ViewCount for each video in an ArrayList.
2. Calculate the average number of views by summing all ViewCount values and dividing by the

total count.

3. Sort the list of view counts and calculate the median:
   • If the list length is odd, the median is the middle element.
   • If the list length is even, the median is the average of the two middle elements.

4. Write the results to a new file (named as you like).

Task 6: Top 10 Videos by Share-to-View Ratio

Objective: Identify videos with the highest share engagement relative to views.

Instructions:

1. Calculate the share-to-view ratio for each video as follows: **Share-to-View Ratio = SharesCount / ViewCount**

2. Store each video's VideoID, AuthorID, and Share-to-View Ratio *(Video object)* in an ArrayList.

3. Sort the list by share-to-view ratio in descending order using a lambda expression.

4. Write the top 10 videos to a new file (named as you like) in the following format:
   VideoID: [VideoID], AuthorID: [AuthorID], Share-to-View Ratio: [shareToViewRatio]