Dataset Overview:

In this project, I am working with a Facebook dataset that includes various attributes related to user demographics, activity on the platform, and interaction data. This dataset is essential for analyzing user behavior, identifying trends in engagement, and drawing meaningful insights about the social media platform's user base.

Here's a breakdown of each attribute in the dataset:

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1. userid

- **Description**: This is a unique identifier for each user in the dataset.
- **Type**: Integer
- **Usage**: It acts as a primary key for identifying users across different entries. Since it's unique, this column helps in referencing and joining data points if needed.
- **Usefulness**: In the analysis, I use `userid` to ensure that each user is treated as an individual entity. It prevents any duplicate analysis of the same user's data.

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2. age

- **Description**: This attribute provides the age of the user.
- **Type**: Integer
- **Usage**: It allows me to segment the users into different age groups and analyze how behavior differs across demographics.
- **Usefulness**: Age is a critical demographic feature. It can help me explore how engagement (likes, shares, comments) varies with different age groups. For example, younger users might be more engaged with the platform, and I can validate this hypothesis with this attribute.

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3. dob_day, dob_month, dob_year

- **Description**: These three attributes represent the user's day, month, and year of birth.
- **Type**: Integer
- **Usage**: These are used to compute the user's birthdate and possibly infer their exact age (if we consider the current date).
- **Usefulness**: By combining these values, I can create a new feature—**date_of_birth**—which can be used for additional insights or to calculate age more precisely. If necessary, this can be a part of time-based analyses (e.g., grouping users based on birth month).

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4. gender

- **Description**: This indicates the gender of the user, typically as "male" or "female".
- **Type**: Categorical (String)
- **Usage**: I can use this attribute to explore how different genders interact with the platform. It's useful for group-by operations and gender-based behavioral analysis.
- **Usefulness**: Understanding gender distribution and how engagement metrics vary by gender (e.g., are men more likely to initiate friendships than women?) is essential for demographic-based insights.

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5. tenure

- **Description**: This indicates the number of days a user has been active on Facebook.
- **Type**: Integer
- **Usage**: Tenure helps to track how long users have been using Facebook, which could reveal patterns of long-term vs. short-term user behavior.
- **Usefulness**: I can analyze how user engagement evolves over their Facebook tenure. For instance, are long-term users more or less active than new users?

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6. friend_count

- **Description**: This is the number of friends a user currently has.
- **Type**: Integer
- **Usage**: It gives insights into a user's social network on the platform. A higher friend count could indicate more social activity.
- **Usefulness**: I can investigate whether a higher friend count correlates with increased activity, such as more likes received or posts made. For example, users with many friends might receive more likes and comments on their posts.

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7. friendships_initiated

- **Description**: This attribute shows how many friendships the user has initiated.
- **Type**: Integer
- **Usage**: It helps understand whether the user is more proactive in building their social network.
- **Usefulness**: Analyzing whether users who initiate more friendships tend to have higher engagement (more likes or shares) can provide insights into proactive vs. passive users.

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8. likes

- **Description**: This is the total number of likes a user has given to other posts.
- **Type**: Integer
- **Usage**: It represents the user's interaction with others' content on the platform.
- **Usefulness**: Likes can be analyzed to see if users who like more posts also receive more engagement on their own posts. It gives insights into how active the user is in liking others' content.

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9. likes_received

- **Description**: This is the total number of likes a user has received on their posts.
- **Type**: Integer
- **Usage**: It reflects the engagement a user gets from others on their posts.
- **Usefulness**: This attribute is key in understanding user popularity. I can correlate it with other metrics like `friend_count` and `posts_made` to see what drives higher likes.

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10. mobile_likes

- **Description**: This is the number of likes the user has given via mobile devices.
- **Type**: Integer
- **Usage**: This data can be used to distinguish between users who engage more through mobile devices compared to desktop or web.
- **Usefulness**: Analyzing mobile user behavior can give insights into platform preference. Mobile users might engage differently than web users, and this can be critical when segmenting user groups.

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11. mobile_likes_received

- **Description**: The total number of likes the user has received from other users on mobile devices.
- **Type**: Integer
- **Usage**: This shows the engagement a user gets specifically from mobile users.
- **Usefulness**: It helps understand whether mobile users are more likely to engage with content. I can compare this with web-based likes received to see which platform drives more interactions.

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12. www_likes

- **Description**: The number of likes the user has given via the web (desktop or browser-based usage).
- **Type**: Integer
- **Usage**: Like `mobile_likes`, this helps me analyze user interaction through the web interface.
- **Usefulness**: Comparing mobile likes vs. web likes can show which platform the user prefers for giving likes.

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13. www_likes_received

- **Description**: The number of likes the user has received from others through the web.
- **Type**: Integer
- **Usage**: This shows how much engagement a user receives from desktop or browser-based users.
- **Usefulness**: By comparing with `mobile_likes_received`, I can segment users and see whether they get more engagement from mobile or desktop platforms.

What I'm Learning from This Dataset

This dataset allows me to explore various dimensions of user behavior on Facebook, such as:

- **Demographics and Engagement**: How factors like age and gender influence user activity and interactions.
- **Platform Usage**: Differences between mobile and web usage.
- **Social Behavior**: How factors like friend count and friendships initiated correlate with likes and other engagement metrics.

Further Questions to Explore

1. **Friendships and Engagement**: Are users with more friends more likely to engage with posts?
2. **Platform Preference**: Do mobile users behave differently compared to web users in terms of likes given or received?
3. **Demographics**: How does age or gender influence the number of friendships initiated or likes received?