**1. Use Case: Personalized Product Recommendations**

**User Story 1: As a user, I want to receive product recommendations based on my previous purchases.**

* **Acceptance Criteria**:
  + After logging in, the user sees personalized product suggestions tailored to their purchase history.
  + The recommendations are displayed on the homepage or in a dedicated "Recommended for You" section.
  + The user can see why a product is recommended based on their past activity (e.g., "Because you bought X, we recommend Y").

**2. Use Case: Discover Trending Products**

**User Story 2: As a user, I want to discover trending products so I can stay up-to-date with popular items.**

* **Acceptance Criteria**:
  + The system identifies the most popular products (based on sales, clicks, or reviews) and recommends them to the user.
  + A separate section on the homepage displays a list of **trending products**.
  + The user can filter or sort these trending products by categories like "Top Rated" or "Most Purchased".

**3. Use Case: Recommendations Based on Browsing History**

**User Story 3: As a user, I want product recommendations based on my browsing history.**

* **Acceptance Criteria**:
  + The recommendation engine tracks the user’s browsing behavior (items they clicked on or viewed).
  + The user gets product suggestions related to the categories or items they previously browsed.
  + The system continuously updates recommendations as the user browses more items.

**4. Use Case: New User Product Recommendations**

**User Story 4: As a new user, I want to get recommendations based on my preferences, even if I haven’t made a purchase yet.**

* **Acceptance Criteria**:
  + When a new user creates an account, they are asked to select categories or products they are interested in.
  + The system provides initial recommendations based on the new user’s selected preferences, even if there is no historical data.
  + Over time, the system refines recommendations as the user interacts more with the platform.

**5. Use Case: Collaborative Filtering for Similar Users**

**User Story 5: As a user, I want to receive recommendations based on what similar users have liked or purchased.**

* **Acceptance Criteria**:
  + The system uses **collaborative filtering** to analyze behaviors of users similar to the current user.
  + Based on this data, the user is shown items liked or purchased by other users with similar interests.
  + The user can see a “People who bought this also bought” section for a better recommendation experience.

**9. Use Case: User Feedback for Improved Recommendations**

**User Story 9: As a user, I want to provide feedback on the recommendations so that the system can improve over time.**

* **Acceptance Criteria**:
  + Users can provide **feedback** (e.g., "I like this product" or "Not interested").
  + The system **learns from this feedback** and adapts its future recommendations.
  + A “thumbs up” or “thumbs down” button allows users to rate the recommendations.