Feature 1: User Registration

Test Scenario 1: Successful Registration

- **Description:**
  Validate that a new CU student can create an account with valid, unique credentials.
- **Test Data:**
  - Username: `student_user_01`
  - Password: `securePass123!`
  - Email: `student01@colorado.edu`
  - Phone Number: `303-555-9876`
- **Test Environment:**
  - Dockerized web app running locally
  - PostgreSQL database connected
  - Accessed via Google Chrome on macOS
- **Expected Test Results:**
  - System returns *"User registered successfully."*
  - User data is saved in the database with a unique ID.
  - No duplicate user entries.
- **Tester Information:**
  - Role: New CU Boulder student (age 18–24)
  - Experience: Moderate computer literacy

Test Scenario 2: Missing Required Fields

- **Description:**
  Ensure that registration fails when username or password fields are empty.
- **Test Data:**
  - Username: *(empty)*
  - Password: *(empty)*
  - Email: `invalid_user@colorado.edu`
- **Test Environment:**
  - Same as above
- **Expected Test Results:**
  - Response code `400`
  - Error message: *"Username and password are required."*
  - No database entry created.
- **Tester Information:**
  - Role: CU student with minimal technical experience

Feature 2: User Login

Test Scenario 1: Valid Login

- **Description:**
  Verify that a registered student can successfully log into their account using valid credentials.
- **Test Data:**
    - Username: `student_user_01`
    - Password: `securePass123!`
- **Test Environment:**
    - Localhost environment
    - Session cookies enabled in browser
    - PostgreSQL running with existing user record
- **Expected Test Results:**
    - Response redirects to home page (`/`)
    - Session created for the user
    - Message displayed: *"Welcome back, student_user_01!"*
- **Tester Information:**
    - Role: Returning CU Marketplace user

Test Scenario 2: Invalid Login

- **Description:**
  Confirm that login fails when a user enters the wrong password.
- **Test Data:**
    - Username: `student_user_01`
    - Password: `wrongPass456`
- **Test Environment:**
    - Same as above
- **Expected Test Results:**
    - HTTP status `200` (re-renders login page)
    - Message: *"Incorrect password."*
    - User session not created.
- **Tester Information:**
    - Role: Returning CU student attempting incorrect login

Feature 3: Post an Item for Sale

Test Scenario 1: Successful Item Posting

- **Description:**
Confirm that a logged-in user can successfully post an item with complete information.
- **Test Data:**
    - Title: "MacBook Pro 2021"
    - Description: "Excellent condition, includes charger."
    - Price: `$950.00`
    - Category: "Electronics"
    - Condition: "Like New"
    - Location: "CU Boulder Campus"
- **Test Environment:**
    - User must be logged in
    - Browser: Google Chrome
    - Database: PostgreSQL (active connection)
- **Expected Test Results:**
    - New post appears in `/browse` listings
    - Confirmation message displayed: *"Item posted successfully."*
    - Database record created in `posts` table.
- **Tester Information:**
    - Role: CU student seller posting an item

Test Scenario 2: Incomplete Item Information

- **Description:**
Verify that the system prevents users from posting items with missing mandatory fields.
- **Test Data:**
    - Title: "Textbook"
    - Description: *(empty)*
    - Price: *(empty)*
- **Test Environment:**
    - Logged-in user in browser
    - Same backend and database configuration
- **Expected Test Results:**
    - Error displayed: *"All required fields must be filled."*
    - Post not added to database.
- **Tester Information:**
    - Role: CU student seller with limited technical background