Guidelines for Getting Started with Development:

Step-0: Clone our project repository from here.

1. **Installing the necessary software packages:**
    a. The Ruby version used for the development of our application is `3.3.2`. If your Ruby version is different, we recommend matching ours to avoid any conflicts with dependencies. You may follow the steps given here for installing Ruby.

    b. If rails is not present already, to install it, do this: `gem install rails`

    c. If bundler is not present already, to install it, do this: `gem install bundler`

    d. If heroku command line (CLI) tool is not present already, to install it, follow the instructions here.

    e. Check the ruby, rails, bundler and heroku CLI versions using the following: `ruby -v && rails -v && bundle -v && heroku -v`

    f. Install `pkg-config` using this command: `sudo apt-get update && sudo apt-get install pkg-config`

2. **Running migrations and creating the database table for development:**
    a. The migration files are already present under `db/migrate` folder. So, no need to create any new migration files.

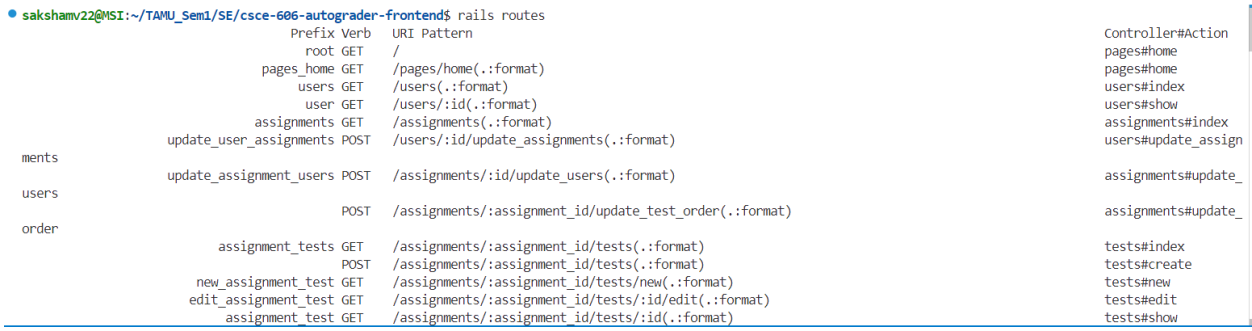
    b. To apply the migration and create the database table for development, simply run `rails db:migrate` .

3. **Verification of Routes and Controller Actions**

    To ensure the application routes are correctly configured and match the intended controller actions, follow these steps:

    Run Rails Routes Command: Use the following command in your terminal to list all defined routes: `rails routes`

i) This command outputs a table of routes, their HTTP methods, and the corresponding controller actions, something like this -



```
sakshamv22@MSI:~/TAMU_Sem1/SE/csce-606-autograder-frontend$ rails routes
                                  Prefix Verb   URI Pattern                                                                              Controller#Action
                                    root GET    /                                                                                        pages#home
                              pages_home GET    /pages/home(.:format)                                                                    pages#home
                                   users GET    /users(.:format)                                                                         users#index
                                    user GET    /users/:id(.:format)                                                                     users#show
                             assignments GET    /assignments(.:format)                                                                   assignments#index
                  update_user_assignments POST   /users/:id/update_assignments(.:format)                                                  users#update_assign
ments
                  update_assignment_users POST   /assignments/:id/update_users(.:format)                                                  assignments#update_
users
                                          POST   /assignments/:assignment_id/update_test_order(.:format)                                  assignments#update_
order
                        assignment_tests GET    /assignments/:assignment_id/tests(.:format)                                              tests#index
                                         POST   /assignments/:assignment_id/tests(.:format)                                              tests#create
                     new_assignment_test GET    /assignments/:assignment_id/tests/new(.:format)                                          tests#new
                    edit_assignment_test GET    /assignments/:assignment_id/tests/:id/edit(.:format)                                     tests#edit
                         assignment_test GET    /assignments/:assignment_id/tests/:id(.:format)                                          tests#show
```

ii) Verify Controller Actions:

- Match the routes in the output with their corresponding controller actions.
- Confirm that each route is implemented as an action in the appropriate controller and behaves as expected.

4. Description of Models and Controllers

Models

1. **`ApplicationRecord`:**
   - Base class for all models.
   - Provides shared functionality for ActiveRecord models.
2. **`Assignment`:**
   - Represents assignments in the application.
3. **`Permission`:**
   - Represents permissions associated with users or assignments.
   - Used for managing access control.
4. **`TestGrouping`:**
   - Represents groupings of tests within assignments.
   - Used for organizing related tests.
5. **`Test`:**
   - Represents individual tests associated with assignments or groupings.
6. **`User`:**
   - Represents an application user.

Controllers

1. **`ApplicationController`:**
   - Base controller for all other controllers.

    - Handles shared functionality such as authentication and error handling.
2. **`AssignmentsController`:**
    - Manages operations related to assignments.
    - Includes actions for viewing assignments, updating users assigned to an assignment, searching assignments, managing directory structures.
3. **`PagesController`:**
    - Manages redirection to Assignments page for logged in users.
    - Includes actions for redirecting to assignments for a logged in user.
4. **`SessionsController`:**
    - Manages user sessions.
    - Includes actions for logging in via GitHub, handling login failures, logging out.
    - Verifies organizational membership during login.
5. **`TestGroupingsController`:**
    - Manages groupings of tests.
    - Includes actions for creating and deleting test groupings.
6. **`TestsController`:**
    - Manages individual tests.
    - Includes actions for configuring test metadata.
7. **`UsersController`:**
    - Handles user-related operations.
    - Includes actions for viewing users, managing user assignments.

5. **Gem files already done need bundle install**
    a. All the Gem files needed are already present in the `Gemfile`. So, no need to add other gem files.
    b. To install all the Gem files, simply run `bundle install`.

6. **Adding developer as our organization member in Github**
    a. To run `rails server` locally, values of `GITHUB_CLIENT_ID`, `GITHUB_CLIENT_SECRET` and `GITHUB_ACCESS_TOKEN` need to be added in `config/local_env.yml` file.
    b. Attach these three lines to `config/local_env.yml`:
    ```
    GITHUB_CLIENT_ID: "Ov23liNjan7iU0KVB0jh"
    GITHUB_CLIENT_SECRET: "11d66c99845c5d3687cbce8326afe4f6aa409ff6"
    ```