TEST GENERATION (Team-6)

USECASE

MCQ WebApp Module Description

GROUP MEMBERS

Mohit, Shivam, Geethu

OBJECTIVE

The objective of this project project implements a web-based MCQ (Multiple Choice Questions) management system using the Flask framework. The system allows administrators to upload questions in bulk via CSV files, stores them in a database, and provides functionalities to manage candidates and their test results.

TECHNOLOGIES USED

1. Flask: A lightweight web framework for Python.
2. SQLAlchemy: An ORM for database operations.
3. SQLite: A lightweight database for storing application data.
4. Pandas: A data manipulation library used for exporting results to Excel.
5. Tempfile: A module for creating temporary files.
6. Werkzeug: A library for secure file handling.
7. Secrets: A module for generating secure tokens for session management.
8. SMTP: Simple mail transfer protocol
9. URLSafeTimedSerializer: a library component which provides a way to serialize data into a URL-safe format

SYSTEM ARCHITECTURE

- **Frontend**: HTML templates rendered by Flask.
- **Backend**: Python with Flask and SQLAlchemy.
- **Database**: SQLite for data storage.
- **File Handling**: CSV for question upload and Excel for result export.

IMPLEMENTATION

- **File Upload and Parsing:**
  - Allows administrators to upload CSV files containing multiple-choice questions from different domains(AI, Data Science, Web Development, Python).
  - Parses the uploaded CSV file and extracts questions and their respective options and correct answers.

- Saves the parsed questions into the database.

- **Email with a link to the Candidate Form:**
  - Admin sends an email with a candidate form link to the candidate's email ID.
  - The candidate can fill out the form through the provided link within a certain time limit.
  - The email is sent using SMTP.

- **Database Management:**
  - Utilizes SQLAlchemy for database management.
  - Includes models for questions and candidates, ensuring structured storage of data.
  - Provides functionality to delete existing questions before uploading new ones, maintaining data integrity.

- **Admin Dashboard:**
  - Provides an interface for administrators to manage the system.
  - Displays uploaded questions and allows for their review and management.

- **Candidate Portal:**
  - Stores candidate information such as name, email, phone number, semester, stream, college name, city, state, test score, and responses.
  - Facilitates the tracking and management of candidate test results.

- **MCQ Test:**
  - Fetches all questions, shuffles them, and displays them. It evaluates the responses and updates the candidate's score.

- **Result Export:**
  - Exports candidate results to an Excel file.
  - Allows administrators to download the Excel file containing detailed candidate performance data.

MEMBER'S CONTRIBUTION

1)Mohit :

- Created HTML templates for Candidate Page, Thankyou Page, Status Page
- Enabled Timer for Test
- Designed entire Database
- Built foundational architecture
- Conducted R&D

2)Shivam :

- Developed Test Taking System

- Implemented Result Scoring and Handling Process
- Designed Admin and User dashboards
- Debugged Errors
- Conducted R&D

3)Geethu :

- CSS design for Candidate Page, ThankYou Page, Status Page
- Creation of Q&A sets for various domains
- Implementation of email & phone number Verification
- Documentation of Proposal & Final Document
- Conducted R&D

4)Sesna & Jerrina :

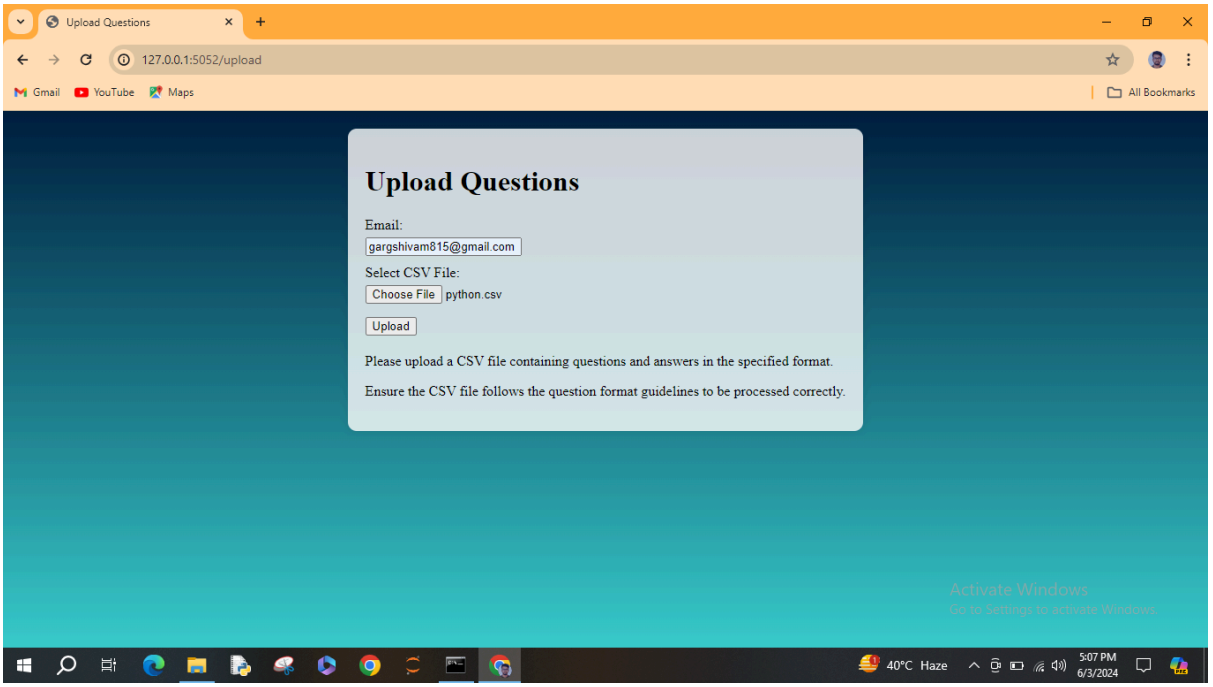
- Integration of Admin and User systems

OPERATING INSTRUCTIONS

- Configure email ID and password of recipient in config.cfg.
- Provide the candidate's email ID and upload the question file (in CSV format) on the upload page.
- The candidate will receive an email containing the registration form link.
- Complete the form using the provided link and submit it.
- Proceed to the MCQ test.
- The results will be updated in a CSV file on the result page.

PROJECT FOLDER LINK & SCREENSHOT OF WEBAPP

Folder Link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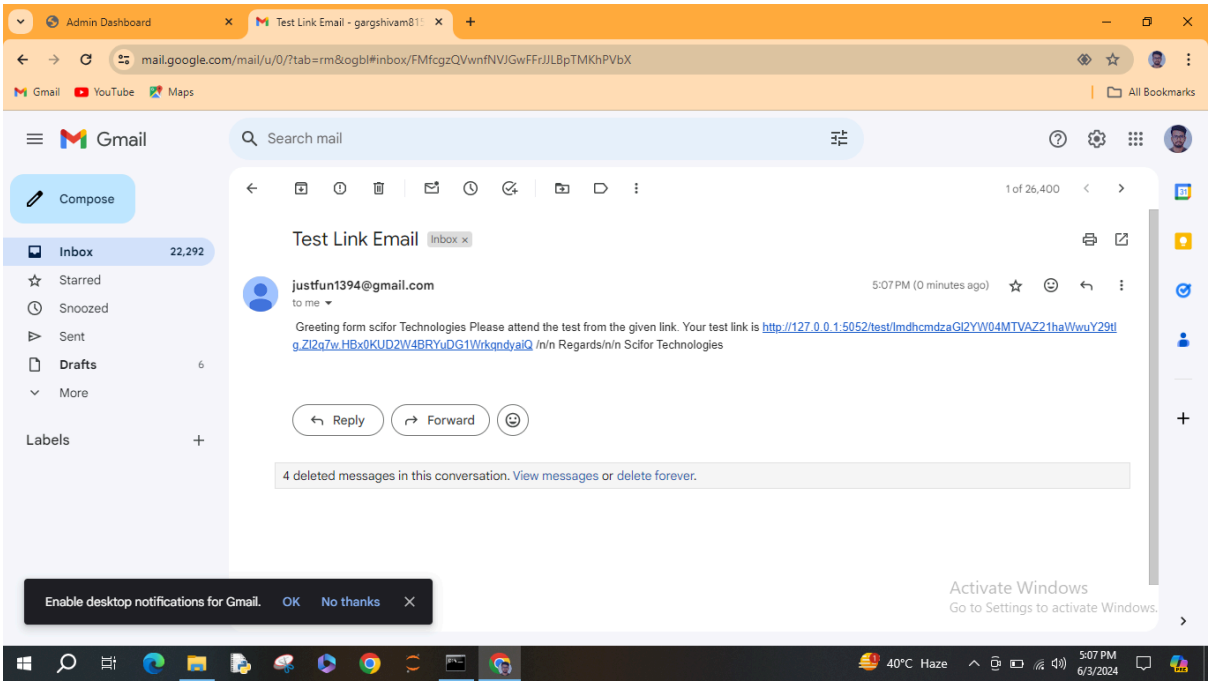
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Forward
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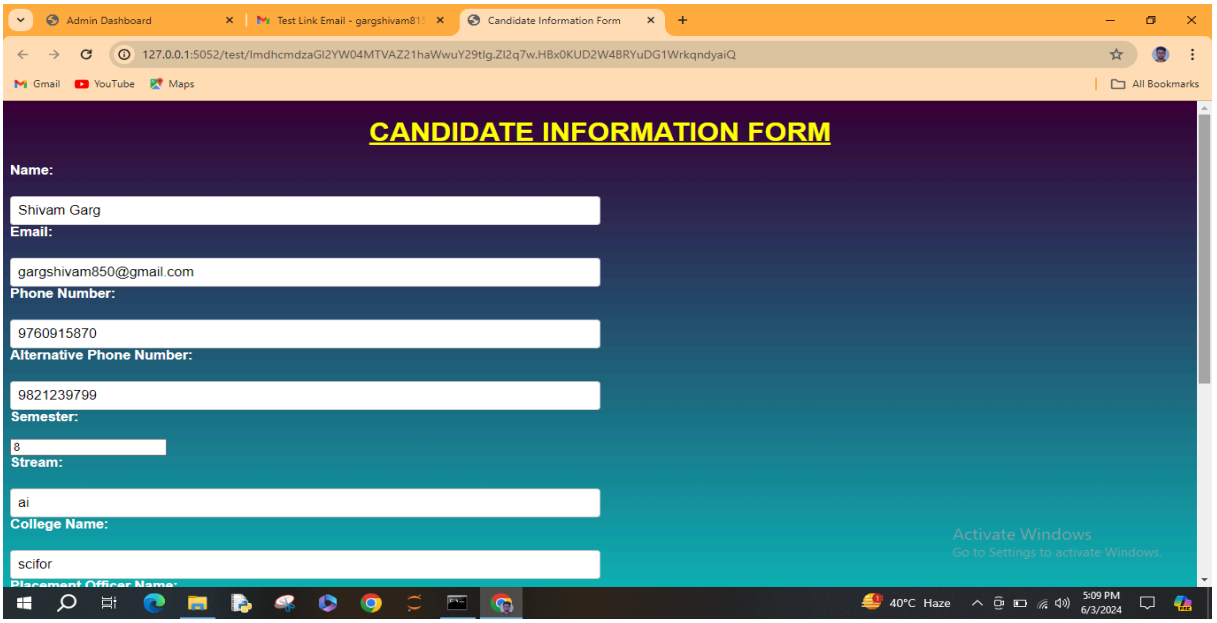
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CANDIDATE INFORMATION FORM
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Shivam Garg
Email:
gargshivam850@gmail.com
Phone Number:
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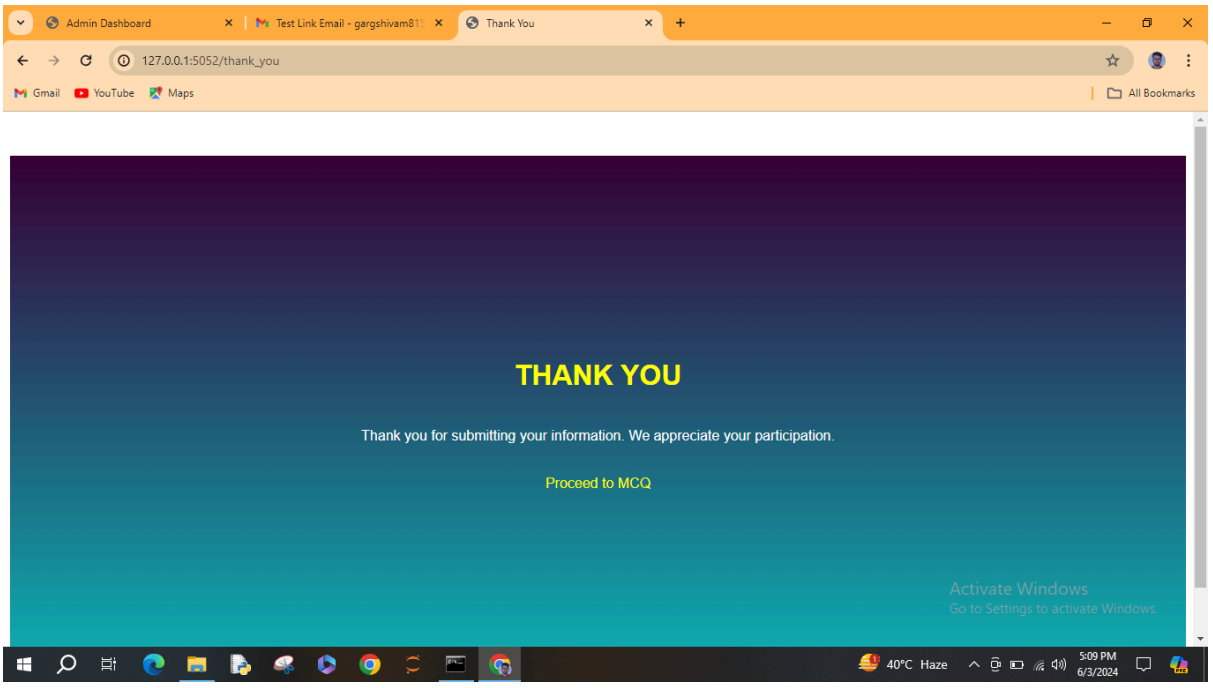
Admin Dashboard
Test Link Email - gargshivam81
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THANK YOU
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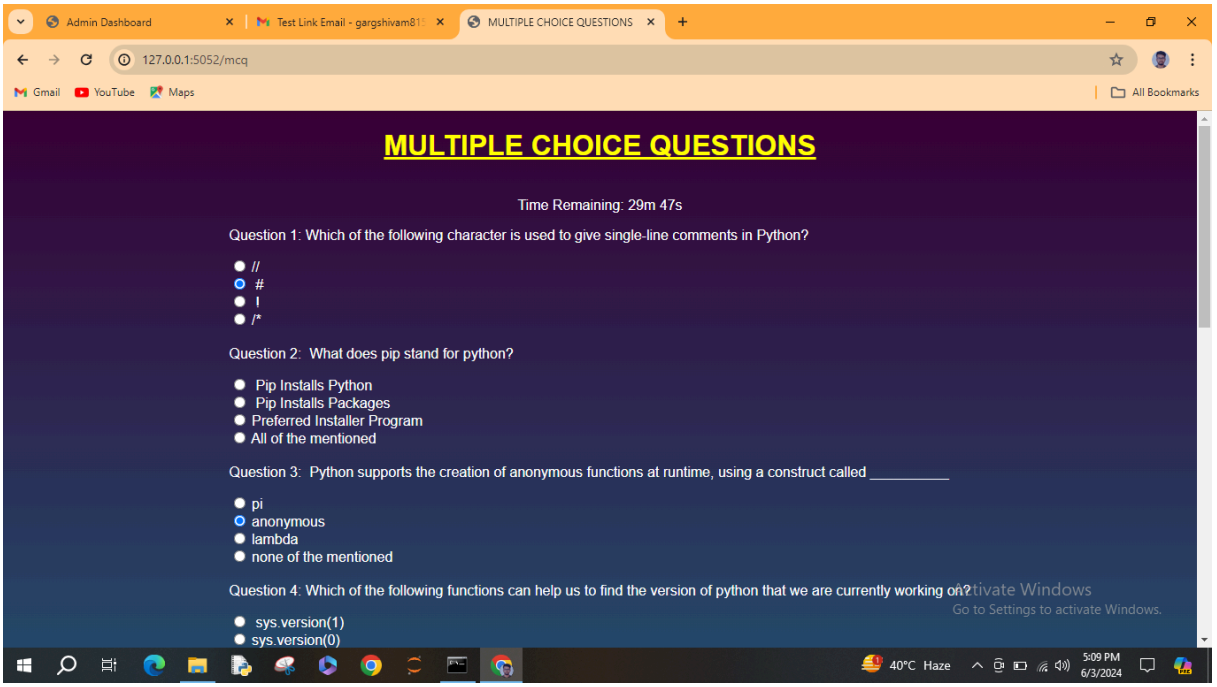

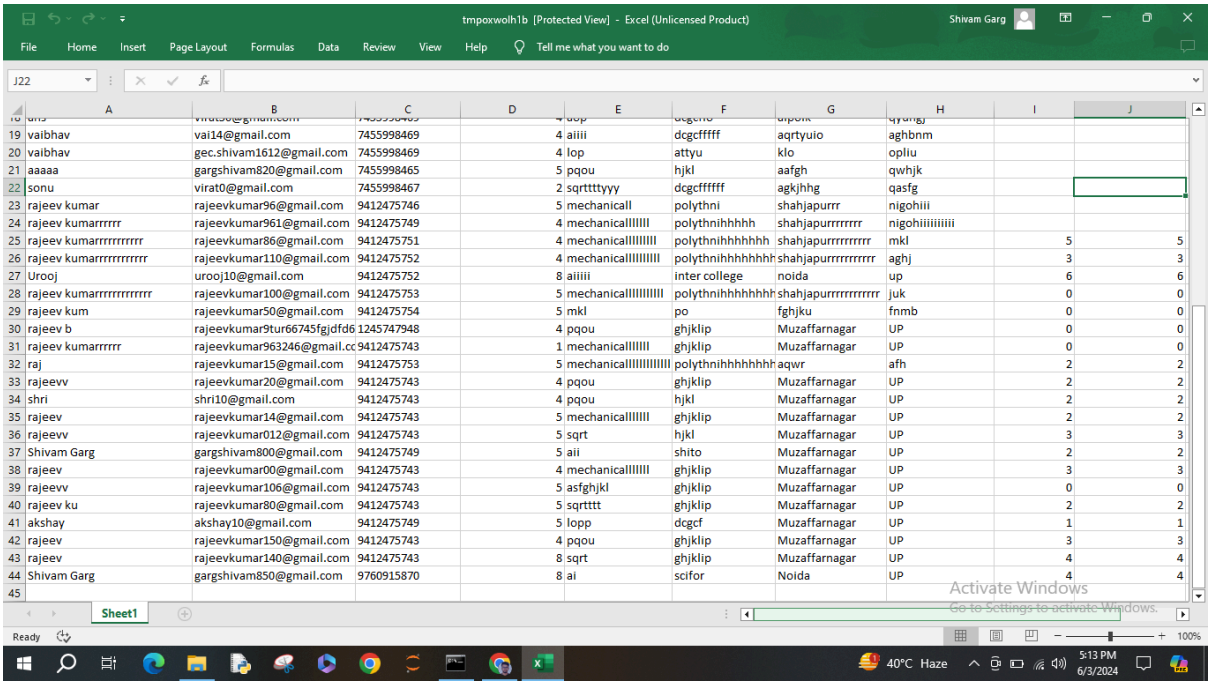

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