

Restaurant Management System - Viva Questions & Answers

Flask & app.py

Q: What is Flask?

A: Flask is a micro web framework in Python used for developing web applications.

Q: How many routes are defined in your Flask app?

A: There are 7 routes: '/', '/order', '/review', '/admin', '/admin/add_item', '/admin/update', '/admin/delete'.

Q: What happens at the '/' route?

A: It loads the homepage, shows menu items and customer reviews.

Q: How is form data retrieved in Flask?

A: Using `request.form['fieldname']` or `request.form.get('fieldname')`.

Q: Why is `redirect(url_for(...))` used?

A: To navigate between pages after completing an action like submitting a form.

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restaurant.py (Backend Classes)

Q: What is the role of restaurant.py?

A: It contains all backend logic including DB connection and classes like MenuManager, OrderManager, ReviewManager.

Q: Explain the DatabaseConnector class.

A: It connects to MySQL, creates tables, and provides access to DB operations.

Q: What does MenuManager do?

A: It manages all menu-related operations including fetch, insert, update and delete.

Q: What does OrderManager do?

A: Handles customer order placement by inserting into the orders table.

Q: What is the purpose of ReviewManager?

A: It inserts and retrieves customer reviews from the reviews table.

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index.html (Frontend)

Q: What is index.html?

A: The homepage of the app that displays menus and handles customer interaction.

Q: How are items shown dynamically?

A: Using Jinja templating syntax with loops and placeholders like `{{ item[1] }}`.

Q: How are customer reviews handled?

A: Displayed using a loop and stored via a form that submits to the '/review' route.

Q: How are orders placed?

A: Through a form with hidden item name and quantity input that submits to '/order'.

Q: Where is the admin panel linked?

A: At the bottom via an anchor tag linking to '/admin'.

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admin.html (Admin Panel)

Q: What functionalities are provided in admin panel?

A: Add, update, delete menu items securely with admin password.

Q: What regex is used for admin password validation?

A: `^(?=.*[A-Z])(?=.*[a-z])(?=.*\d){8,}$`.

Q: How is form submission handled?

A: Each form sends data using POST to specific routes like '/admin/add_item'.

Q: How is the UI styled?

A: Using inline CSS: colors like #EBC2D5, fonts like Arial, and structured layout.

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General Python, OOP, DB & Regex Concepts

Q: What is a class in Python?

A: A blueprint for creating objects that encapsulate data and methods.

Q: What is polymorphism?

A: The ability for different classes to implement the same method differently.

Q: What is inheritance?

A: One class (child) derives properties from another (parent).

Q: What is exception handling?

A: Managing runtime errors using try, except, and finally blocks.

Q: What is a regular expression?

A: A pattern used to match strings. Useful for validation like password checks.

Q: What is a database?

A: An organized system to store and manage data efficiently.

Q: What is CRUD?

A: Create, Read, Update, Delete - the basic operations in any DBMS.

Q: What is Jinja templating?

A: Used in Flask to render dynamic data in HTML templates.

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OOP in This Project

Q: What type of inheritance is used?

A: Single inheritance. Each class extends the base object class.

Q: Is multiple inheritance used?

A: No, classes are independent and interact using composition.

Q: What is encapsulation in your project?

A: Hiding the database logic inside classes and exposing clean interfaces.

Q: What is abstraction?

A: Only essential features are exposed, hiding internal DB logic from the main app.

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HTML Styling & UI

Q: What font did you use?

A: Arial, sans-serif.

Q: Which colors were used for UI?

A: Background: #EBC2D5, Headers: #A42153, Buttons: #C5558E.

Q: How are tables styled?

A: Using inline styles like border, padding, color, and background.

Q: What form controls were used?

A: Text input, password input, number input, select dropdown, textarea, button.

Q: Is the site responsive?

A: Yes, using the viewport meta tag and flexible layout.

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Extra Viva Questions

Q: Why did you choose Flask over Django?

A: Flask is lightweight and sufficient for small projects; Django is more complex.

Q: What challenges did you face?

A: Form handling bugs, database insertion errors, and styling inconsistencies.

Q: How did you test your project?

A: By manually submitting orders, adding items, and checking database records.

Q: How would you improve the project?

A: Add login system, use external CSS, and support for images or file uploads.

Q: What is a constructor in Python?

A: `__init__()` is the constructor used to initialize class objects.