1. **Delivery Form** (`Delivery` class):

- **Fields**: `number` and `food` store customer information.
- **Constructor**: Initializes the form with the provided `number` and `food`.
- **btnOrder_Click Event Handler**:
    - **Database Connection**: Uses a connection string to connect to the SQL Server database.
    - **Retrieve Food Details**: Fetches `food_id` and `price` from the `food` table.
    - **Retrieve Order ID**: Gets the next available `order_id` from the `order_customer` table.
    - **Insert Order**: Inserts a new order into the `order_customer` table.
    - **Insert Delivery Reservation**: Inserts delivery details into the `delivary` table.
    - **Success Notification**: Displays a success message and opens a `Success` form.

2. **Admin Form** (`Admin` class):

- **Constructor**: Initializes the admin form.
- This form currently does not contain any additional logic or event handlers.

3. **CustomerChoice Form** (`CustomerChoice` class):

- **Constructor**: Initializes the customer choice form.
- **CustomerChoice_Load Event Handler**:
    - **Database Connection**: Fetches menu details including updated prices using a SQL join query.
    - **Display Menu**: Binds the fetched data to `dataMenu`.
- **btnReservationChoice_Click Event Handler**: Opens the `Table` form for table reservations.
- **btnDeliveryChoice_Click Event Handler**: Opens the `Delivery` form for delivery reservations.

4. **LoginForm** (`LoginForm` class):

- **Constructor**: Initializes the login form.
- **btnLogin_Click Event Handler**:
  - **Database Connection**: Checks the user's credentials against the `staff` or `customer` tables.
  - **Staff Login**: If `chBoxStaff` is checked, verifies staff credentials.
  - **Customer Login**: If `chBoxStaff` is not checked, verifies customer credentials.
  - **Successful Login**: Shows the `CustomerChoice` form if credentials are correct.
- **labelGoToSignUp_Click Event Handler**: Opens the `SignUp` form.
- **chBoxShowPassword_CheckedChanged Event Handler**: Toggles the visibility of the password.

Key Points

- **Database Interactions**: The application frequently interacts with a SQL Server database to fetch and insert data.
- **User Interface**: Utilizes Windows Forms to create the GUI for different user roles and functionalities.
- **Event Handling**: Various event handlers manage user interactions like button clicks and form loading.

SignUp Form

1. **SignUp Form** (`SignUp` class):

- **Constructor**: Initializes the sign-up form.
- **Event Handlers**:
  - **btnStaffSignUp_Click**: Opens the `StaffSignUp` form when the staff sign-up button is clicked.
  - **btnCustomerSignUp_Click**: Opens the `CustomerSignUp` form when the customer sign-up button is clicked.
  - **labelGoToLogin_Click**: Opens the `LoginForm` when the label is clicked, allowing users to navigate to the login form.

- **SignUp_Load**: Currently an empty event handler for when the form loads.

StaffSignUp Form

2. **StaffSignUp Form** (`StaffSignUp` class):

   - **Constructor**: Initializes the staff sign-up form.

   - **Event Handlers**:

     - **labelGoToLogin_Click**: Opens the `LoginForm` when the label is clicked, allowing users to navigate back to the login form.

     - **btnSignUp_Click**: Handles the staff sign-up process.

       - **Database Connection**: Connects to the SQL Server database.

       - **Generate New Staff ID**: Queries the database for the latest `staff_id` and increments it to generate a new ID.

       - **Password Confirmation**: Ensures the password and confirm password fields match.

       - **Insert New Staff**: Inserts the new staff details into the `staff` table.

       - **Success Notification**: Displays messages indicating the number of affected rows and the new staff ID.

       - **Navigation**: Opens the `LoginForm` upon successful sign-up.

     - **chBoxShowPassword_CheckedChanged**: Toggles the visibility of the password.

     - **chBoxShowConfirmPassword_CheckedChanged**: Toggles the visibility of the confirm password.

Key Points

- **Navigation Between Forms**: The forms have buttons and labels that allow users to navigate between sign-up, login, and other related forms.
- **Database Operations**: The forms use SQL commands to interact with the database, specifically for querying and inserting data.
- **User Input Validation**: The sign-up forms include basic validation, such as checking that password and confirm password fields match.
- **UI Elements**: The forms contain various UI elements like text boxes, buttons, and labels for user interaction.

Success Form

1. **Success Form** (`Success` class):

    - **Constructor**: Initializes the success form.

    - **Event Handlers**:

        - **btnGoToHome_Click**: When the "Go to Home" button is clicked, it creates an instance of the `CustomerChoice` form, hides the current form, and shows the `CustomerChoice` form.

    - **Success_Load**: Currently an empty event handler for when the form loads.

Key Points

- **Navigation to Home**: The form provides a button (`btnGoToHome`) that allows users to navigate back to the `CustomerChoice` form after a successful operation.
- **UI Elements**: Contains UI elements such as buttons to facilitate user interaction and navigation.
- **Form Initialization**: Uses `InitializeComponent()` to set up the form's components.

Code Flow

1. **Form Initialization**:

    - The `Success` form is initialized and its components are set up when an instance of the form is created.

2. **Button Click Event**:

    - When the "Go to Home" button is clicked, the `btnGoToHome_Click` event handler is triggered.

    - A new instance of `CustomerChoice` is created.

    - The current `Success` form is hidden using `this.Hide()`.

    - The `CustomerChoice` form is shown using `customerChoice.Show()`.

Table Form

1. **Table Form** (`Table` class):

- **Fields**:
  - `food`: Stores the name of the food item.
  - `number`: Stores the customer's phone number.
- **Constructor**: Initializes the form with food and number parameters, and sets up the form components.
- **Event Handlers**:
  - **btnReserve_Click**: Handles the process of reserving a table when the "Reserve" button is clicked.

Key Points

- **Form Initialization**: The form is initialized with the customer's phone number and the selected food item.
- **Database Operations**: The form performs several database operations to process the reservation.
  - **Validation**: Validates the reservation date.
  - **Food Retrieval**: Retrieves the food ID and price from the database.
  - **Order ID Retrieval**: Gets the next available order ID from the database.
  - **Order Insertion**: Inserts a new order into the `order_customer` table.
  - **Table Reservation**: Inserts a new reservation into the `table_reservation` table.

Code Flow

1. **Form Initialization**:

   - The `Table` form is initialized with the customer's number and the selected food item, and the form components are set up.

2. **Reservation Process**:

   - **Validate Reservation Date**: Checks if the reservation date entered by the user is valid. If not, it shows an error message.
   - **Retrieve Food Details**: Connects to the database to retrieve the `food_id` and `price` for the selected food item.
     - If the food item is not found, it shows an error message.
   - **Retrieve Order ID**: Connects to the database to get the next available order ID.

- **Insert Order**: Inserts a new order into the `order_customer` table with the retrieved food details, reservation date, and customer number.
- **Insert Table Reservation**: Inserts the reservation details into the `table_reservation` table, including the number of people and reservation date.

3. **Success Notification**:

- Shows a success message upon successful table reservation.
- Creates an instance of the `Success` form, hides the current form, and shows the `Success` form.

Example Usage

1. **User Input**: The user enters their phone number, the food item they want to order, and the reservation date.
2. **Click Reserve**: The user clicks the "Reserve" button.
3. **Database Operations**:

- The form validates the reservation date.
- It retrieves the food details and the next order ID from the database.
- It inserts the new order and table reservation into the database.

4. **Success Message**: The form displays a success message and navigates to the `Success` form.

role
- * admin — Variable characters (10)
- * manager — Variable characters (10)
- * waiter/waitress — Variable characters (10)

determine

supervision
supervisor
supervisee

staff
- # Staff_id — Integer
- * Staff_name — Variable characters (20)
- * password — Variable characters (20)
- salary — Decimal (8,2)

Add and update

menu
- # menu_id — Intege

represent

food
- # FID — Integer
- * name — Variable characters (15)
- * description — Text (50)
- * price — Decimal (7,2)

update

drive
implement

customer
- # customer_number — Variable characters (30)
- * customer_name — Variable characters (20)
- * email — Variable characters (50)
- * address — Variable characters (30)
- * password-cus — Variable characters (20)

serve

has

order_customer
- # order_id — Integer
- * order_date — Date
- * total_amount — Decimal (7,2)
- * order_status — Variable characters (15)

order

pay

include

payment
- # payID — Intege

raserve

contain

update
- * number_of_people — Integer
- * reservation_date — Date

update table

table_reservation
- # table_id — Integer
- * status_table — Variable characters (10)

reserve and cancel

delivery
- o dare_deli — Date

ER Diagram — Restaurant Management System

role

Staff id	integer	<fk>
admin	varchar(10)	
manager	varchar(10)	
waiter/waitress	varchar(10)	

staff

Staff id	integer	<pk>
sta Staff id	integer	<fk2>
Staff name	varchar(20)	
password	varchar(20)	
salary	decimal(8,2)	

menu

menu id	integer	<pk>
Staff id	integer	<fk1>
FID	integer	<fk2>

customer

customer number	varchar(30)	<pk>
customer name	varchar(20)	
email	varchar(50)	
address	varchar(30)	
password-cus	varchar(20)	

food

FID	integer	<pk>
name	varchar(15)	
description	long varchar	
price	decimal(7,2)	

order customer

order id	integer	<pk>
FID	integer	<fk2>
customer number	varchar(30)	<fk1>
Staff id	integer	<fk3>
order date	date	
total amount	decimal(7,2)	
order status	varchar(15)	

payment

payID	integer	<pk>
order id	integer	<fk3>
Staff id	integer	<fk2>
customer number	varchar(30)	<fk1>

update

Staff id	integer	<fk>
number of people	integer	
reservation date	date	

table reservation

table id	integer	<pk>
customer number	varchar(30)	<fk3>
order id	integer	<fk1>
status table	varchar(10)	

delivery

Staff id	integer	<fk2>
customer number	varchar(30)	<fk1>
date deli	date	

Relationships:
- FK ROLE DETERMINE STAFF
- FK STAFF DETERMINE ROLE
- FK UPDATE UPDATE STAFF
- FK ORDER CU SERVE STAFF
- FK PAYMENT IMPLEMENT STAFF
- FK MENU ADD AND U STAFF
- supervisor / supervisee
- FK STAFF SUPERVISI STAFF
- FK MENU REPRESENT FOOD
- STAFF DRIVE DELIVERY
- FK PAYMENT PAY CUSTOMER
- FK ORDER CU HAS FOOD
- FK DELIVERY DRIVE2 STAFF
- FK ORDER CU ORDER CUSTOMER
- FK DELIVERY RASERVE CUSTOMER
- FK PAYMENT CONTAIN ORDER CU
- FK TABLE RE INCLUDE ORDER CU
- FK TABLE RE UPDATE TA UPDATE
- FK TABLE RE RESERVE A CUSTOMER