**Assignment 2:**

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**Data Entry Form for a Person:**

This java code is a simple GUI based data entry application using JAVAFX. It is used to collect users’ personal details such as name, father’s name, date of birth, gender, CNIC, city and then saves that information of Person into Array List of Person object.

**Output of Code:**

The code includes form components for input and functionality to upload an image.

**Breakdown of Code:**

1. Person Class:

This is a simple person class having attributes functions representing a Person. It contains various fields and a constructor to initialize those fields. It includes getter methods to retrieve this information (encapsulation) and a toString() method.

1. **Template Class (Main Application):**

The start() method is overridden to set up the application UI and the main() method launches the application.

**Banner:** A label at the top of the UI with a title, styled with a background color and white text at the center.

**Text Fields:** For entering the name, fathers name, CNIC, etc. Each field is created using Text Field and is set with a Prompt Text.

**Date Picker:** For selecting the date of Birth of person using a DatePicker component.

**Radio Button for Gender:** There are two Radio Buttons for selecting the gender encapsulated with a toggle group.

**Combo Box for City:** A dropdown list (Combo Box) is used for selecting a city from predefined options.

**Image Upload:** An ImageView and FileChooser are used to allow the user to upload an image. The uploaded image is displayed in the GUI.

**Form layout:** All of these components are placed into a GridPane, which arranges them neatly in rows and columns. The layout is styled to improve visual appearance**.**

**Save Button:** A button that when clicked creates a new Person object using the values from the form and adds it to an Arraylist. This is also when data is printed to the console.

**Scene and Stage:** These are used to set up the main window of the application. The Scene defines the layout, and the Stage represents the window itself.