

## "Smart Home Automation System with On / Off and Brightness / Speed Levels"

Design and implement a using **Java** and **JavaFX**. The system should allow users to control the lights in different rooms of a house. Users can turn the lights on or off and select predefined brightness levels (Low, Medium, High) using buttons.

### Core Features:

#### 1. Light Control:

- Users can control the light in each room:
  - **On/Off Button** to toggle the light state.
  - **Three Brightness Buttons:** "Low", "Medium", "High" to adjust the brightness.

#### 2. Fan:

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  - **Three Brightness Buttons:** "Low", "Medium", "High" to adjust the brightness.

#### 3. Room-Based Control:

- The system will control lights in **three rooms: Living Room, Bedroom, and Kitchen**.
- Each room will have its own controls (On/Off and Brightness levels).

#### 4. GUI Design (JavaFX):

- Use **JavaFX** to create a basic graphical interface that displays:
  - An "On/Off" button for each room.
  - Three buttons for brightness control ("Low", "Medium", "High").
  - A label showing the current state (On/Off) and brightness level for each light.

### Constraints:

#### 1. Light States:

- If a light is off, the brightness buttons should not work.
- Once the light is on, users can choose between three brightness levels.

#### 2. Initial States:

- Each light should start in the "Off" state with no brightness set.

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### Sample GUI Layout:

For each room (Living Room, Bedroom, Kitchen):

- **On/Off Button**

- **Brightness Buttons (Radio Buttons):**
  - "Low"
  - "Medium"
  - "High"
- **State Label:** Displays the current state like "Light is On, Brightness: Medium" or "Light is Off."