**DATABASE details for Smart Home Summarization**

**1. Overview**

This database is designed to store and retrieve sensor and device-related data for a smart home environment. It tracks environmental factors like temperature, humidity, and brightness while also recording the status, energy consumption, and usage details of various smart devices.

**2. Tables and Their Attributes**

**Environmental Sensor Data**

|  |  |  |
| --- | --- | --- |
|  | | |
| **Table Name** | **Columns** | **Description** |
| Bathroom\_Brightness | timestamp, brightness | Tracks brightness levels in the bathroom. |
| Bathroom\_Humidity | timestamp, humidity | Records humidity data for the bathroom. |
| Bathroom\_Temperature | timestamp, temperature | Logs temperature readings in the bathroom. |
| Kitchen\_Brightness | timestamp, brightness | Captures kitchen brightness levels. |
| Kitchen\_Humidity | timestamp, humidity | Stores humidity levels in the kitchen. |
| Kitchen\_Temperature | timestamp, temperature | Records kitchen temperature readings. |
| Room1\_Brightness | timestamp, brightness | Monitors brightness in Room 1. |
| Room1\_Humidity | timestamp, humidity | Tracks humidity levels in Room 1. |
| Room1\_Temperature | timestamp, temperature | Stores temperature data for Room 1. |
| Room2\_Brightness | timestamp, brightness | Logs brightness levels in Room 2. |
| Room2\_Humidity | timestamp, humidity | Stores humidity readings in Room 2. |
| Room2\_Temperature | timestamp, temperature | Captures Room 2 temperature data. |
| Room3\_Brightness | timestamp, brightness | Tracks brightness in Room 3. |
| Room3\_Humidity | timestamp, humidity | Records humidity levels in Room 3. |
| Room3\_Temperature | timestamp, temperature | Logs temperature readings in Room 3. |
| Toilet\_Brightness | timestamp, brightness | Captures brightness levels in the toilet. |
| Toilet\_Humidity | timestamp, humidity | Monitors humidity levels in the toilet. |
| Toilet\_Temperature | timestamp, temperature | Logs temperature readings in the toilet. |

**Smart Device Data**

| **Table Name** | **Columns** | **Description** |
| --- | --- | --- |
| ac | device\_id, temperature, status, energy\_consumption, minutes\_used, timestamp | Tracks air conditioner status, temperature, and power usage. |
| fan | device\_id, speed, status, energy\_consumption, minutes\_used, timestamp | Logs fan speed, status, and energy consumption. |
| light | device\_id, brightness, status, energy\_consumption, minutes\_used, timestamp | Stores brightness level and energy consumption of lights. |
| oven | device\_id, mode, status, energy\_consumption, minutes\_used, timestamp | Tracks oven mode, status, and energy usage. |
| tv | device\_id, playback, status, energy\_consumption, minutes\_used, timestamp | Logs TV playback status and energy consumption. |
| washing\_machine | device\_id, mode, status, energy\_consumption, water\_consumption, minutes\_used, timestamp | Records washing machine mode, water, and power usage. |

**Device Information**

| **Table Name** | **Columns** | **Description** |
| --- | --- | --- |
| device\_information | device\_id, device\_type, device\_location | Maps devices to their respective locations in the house. |

**3. Device Location Mapping**

| **Device Type** | **Locations** |
| --- | --- |
| TV | Room 1 |
| Fan | Room 1, Room 2, Room 3 |
| Light | Room 1, Room 2, Room 3, Kitchen, Bathroom, Toilet |
| Washing Machine | Room 2 |
| AC | Room 3 |
| Oven | Kitchen |

**4. Example Entries from Tables**

**Environmental Data (Example Entries)**

| **Table Name** | **Example Entry** |
| --- | --- |
| Bathroom\_Brightness | ('2017-03-08 23:58:47', 0.0) |
| Kitchen\_Temperature | ('2017-03-09 01:12:35', 17.48) |
| Room1\_Humidity | ('2017-03-09 01:11:35', 44) |

**Device Data (Example Entries)**

| **Table Name** | **Example Entry** |
| --- | --- |
| light | (103, 1, 'on', 0.0, 0, '2024-03-03 00:00:00') |
| ac | (301, 17, 'on', 0.0, 0, '2024-03-03 00:00:00') |
| washing\_machine | (201, 'Heavy Duty', 'on', 0.0, 0.0, 0, '2024-03-03 00:00:00') |
| fan | 102,5,on,0,21,03-03-2024 02:09 |
| oven | 401,Bake,off,3.59,16,03-03-2024 00:40 |
| tv | 101,Amazon Prime,on,0,24,03-03-2024 03:33 |

**Device Information (Example Entry)**

| **Table Name** | **Example Entry** |
| --- | --- |
| device\_information | (101, 'tv', 'Room1') |