BLE Exercise

- **BLE communication**

1. Create a class/screen which shall do the following things
    1.1. Check BLE is supported by mobile or not, Required Permissions are provided or not, Location is enabled or not
    1.2. Have a button to start and stop BLE scanning
    1.3. List down all the BLE devices nearby, with its name and mac address
        1.3.1. Make sure list have a unique device (Omron Env Sensor, the name is starting with IM), it shall not get repeated
        1.3.2. Filter devices according to Manufacturer (Omron is the name of Manufacturer) to display only devices which you want to allow by your app
2. Create a class/screen which connects the specific BLE device from list prepared in previous class/screen
    2.1. Check the status of the connection with a specific device and try to reconnect if required, show current status of the device on the screen
    2.2. Discover the characteristics of the device and list down characteristics with its permission (read, write, notify, indicate)

        READ: To get Latest Data = "0c4c3001-7700-46f4-aa96-d5e974e32a54" (Temperature, Humidity, Light, UV Index, Sound noise)
        Note: Follow **Table 8. Response data format** from PDF Omron_Manual_PCB.pdf

        WRITE: To write temp settings data = "0c4c3013-7700-46f4-aa96-d5e974e32a54"
        Note: Follow **Table 17. Temperature format** from PDF Omron_Manual_PCB.pdf

        NOTIFY: To get Latest Data = "0c4c3001-7700-46f4-aa96-d5e974e32a54"
        Note: Follow **Table 8. Response data format** from PDF Omron_Manual_PCB.pdf

    2.3. Read characteristics changes and update on-screen according to changes getting happen
    2.4. Write descriptor on write characteristic to understand write operation

3. Create a retry policy for a device to count connection attempt and display an informative message