Project Proposal (TA version)
Topic: Intelligence house

1. Objective:
   - Simulating a smart-home environment (*automatic lamps & fans, environment monitoring*).
   - Lamps and fans will turn on and turn off automatically depends on light and temperature threshold.
   - On the website we can control the lamps, fans, and doors and monitor the temperature and humidity.
   - Even more, we will use voice control to help us control the devices more conveniently.

2. Spec:
   2.1. Midterm Demo:
       We will do some basic things (using DHT22 sensor to control the fan based on temperature, and using Photoresistor to control the lamp based on light level) at first.
       - Hardware:
         o Raspberry Pi 4b.
         o DHT22 (for monitoring the temperature).
         o Photoresistor (for controlling the lights).
         o LEDs, Fan.
       - Software:
         o Python programming (write the program for device control).
         o Django (to build the website).
   2.2. Final Demo:
       We will use advance module (Alexa Echo Dot) to control the lamps and fans by voice, and control the door using the Servo motor.
       - Hardware:
         o Raspberry Pi 4b.
         o Alexa Echo Dot (for voice control).
         o Servo motor MG996R.
         o LEDs, Fan.
       - Software:
         o Python programming (write the program for voice control).
         o Django (to build the server).