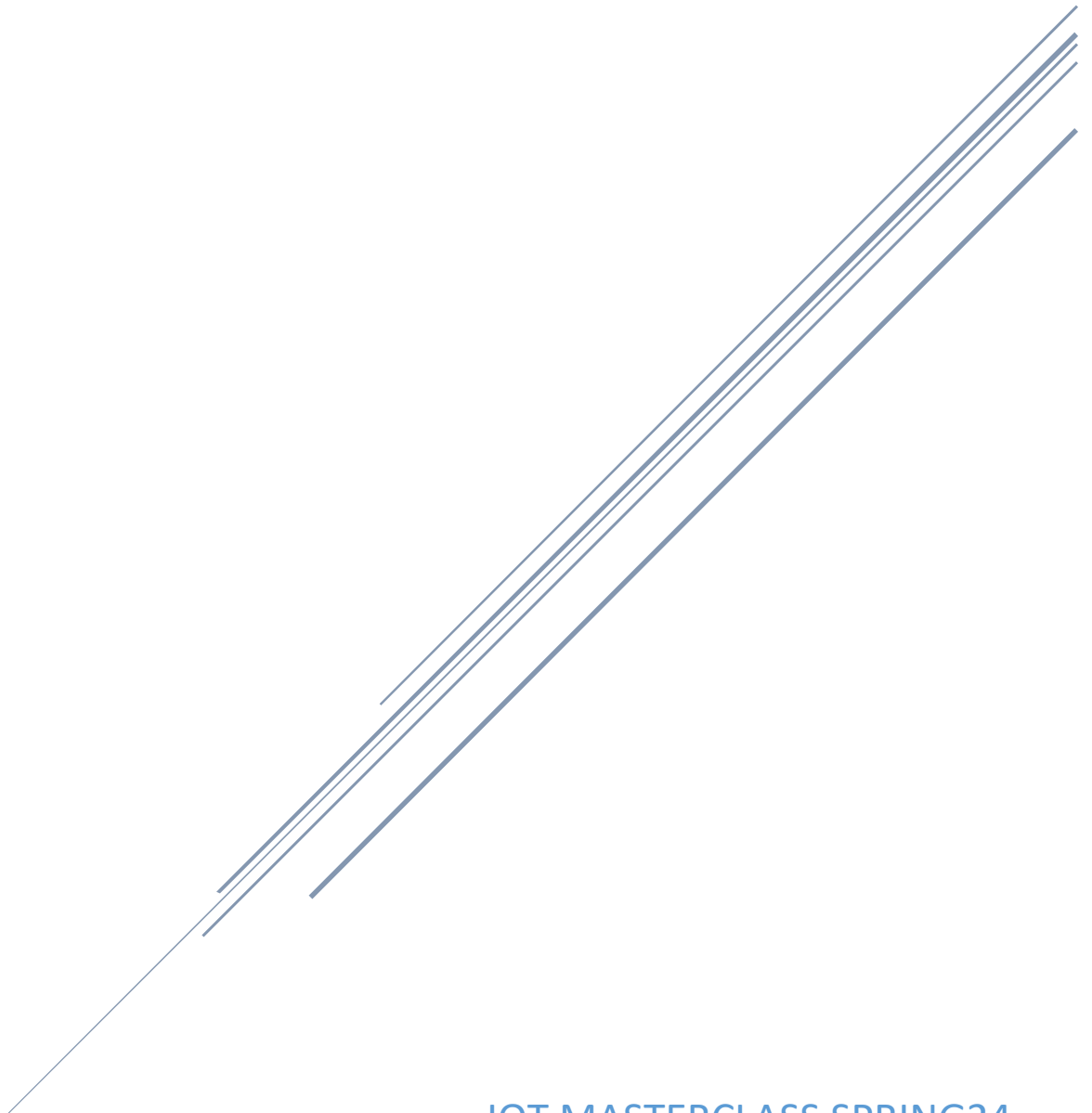


# ASSIGNMENT NO.1



IOT MASTERCLASS SPRING24  
By. Dr. Aamir Farooqui

# **ASSIGNMENT 01**

The questions for Assignment 1 are as follows

1. **Conduct a Market Survey:** Your task here is to identify components commonly used in IoT devices. This will involve researching and gathering datasheets for these components to understand their specifications and capabilities.
2. **Develop Ideas for IoT Devices:** Once you have identified components, it's time to get creative! Brainstorm ideas for IoT devices using the components you've researched. Think about how these components can be combined to create innovative solutions to real-world problems.
3. **Install ESP32 Programming Tools:** Follow the instructions provided in the ESP32 programming document to set up the necessary tools for programming the ESP32 microcontroller. This will be essential for implementing your IoT device ideas.
4. **Study IoT Applications and Case Studies:** Research various IoT applications and summarize case studies to gain insights into real-world implementations. This will help you understand the practical use cases of IoT technology across different industries.
5. **Investigate IoT Protocols:** Explore different communication protocols used in IoT systems and compare their features, advantages, and disadvantages. Understanding IoT protocols is crucial for designing efficient and reliable IoT solutions.
6. **Explore IoT Security:** Examine the security challenges associated with IoT devices and networks, and propose strategies to mitigate these risks. Security is a critical aspect of IoT deployment and must be considered at every stage of development.
7. **Explore IoT Engineer Roles:** Research the roles and responsibilities of IoT engineers, and list tasks such as data analysis, system integration, and device management. This will give you insights into the diverse skill set required to work in the field of IoT.
8. **If you have any questions or need clarification on any of the tasks, please don't hesitate to reach out. Remember to manage your time effectively and submit your assignments before the 7th April 2024.**