

## Lab 09: Requirement Description

- ADC
  - Video: [https://www.youtube.com/watch?v=hN71\\_2UdSg](https://www.youtube.com/watch?v=hN71_2UdSg)
  - Sample code: <https://www.youtube.com/watch?v=pQz4uJpra7M>
  - HackMD: <https://hackmd.io/Mg65IxZYS9mjDybkGu-qZg>
- Basic (70%):
  - Description: Use four bulbs as a counter to record the degree of rotation of the variable resistor, when the variable resistor is rotated, the form of the light bulb is sequentially changed to indicate 0~15. Please use 10-bit resolution and map 0~1023 to 0~15, the oscillator frequency needs to be  $\geq 4$  MHz.
  - Example: <https://youtu.be/sveEmRz5RgY>
- Advanced (30%):
  - Description: Use four bulbs to indicate 0~15. Please light up the bulb while rotating the variable resistor at a constant speed to show pi, which is "3141592653".
- Standard of Grading
  - Program in C only.