Analog to Digital Conversion

Spoken Tutorial Project
https://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

Pratik Bhosale
IIT Bombay

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Learning Objectives

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- **ADC i.e. Analog to Digital Conversion**

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Pre-Requisites

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To follow this tutorial, you should have basic knowledge of:

- **Electronics**
- **C or C++ programming language**

System Requirements

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- **Arduino UNO board**

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- **Arduino UNO board**
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- **Arduino IDE**

External Components Required

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- **DHT11 sensor**
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- **Jumper wires**

DHT11 Sensor

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- **It is useful for humidity readings between 20% to 80% with $\pm$5% RH i.e. Relative Humidity**

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- **It is useful for humidity readings between 20% to 80% with ±5% RH i.e. Relative Humidity**
- **It is useful for temperature readings between 0 - 50 ℃ with ±2 ℃**

Summary

- **ADC i.e. Analog to Digital Conversion**
- **ADC pins in Arduino**
- **ADC Resolution**
- **DHT11 Temperature and Humidity sensor**
- **Serial Monitor and Serial Plotter**

Assignment

1. **Raise an alarm by glowing the built-in LED pin 13 of the Arduino**
2. **Modify the above existing code**

Assignment (cont.)

3. **Hint:** Use If-else statement
4. Add 1 or 2 deg C to the temperature value that you get on the serial monitor
5. To increase the temperature reading, cover the DHT11 sensor with your hands

Assignment (cont.)

6. **Refer to the Assignment link of this tutorial for the source code**

About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Forum for specific questions

- **Do you have questions in THIS Spoken Tutorial?**
- **Please visit http://forums.spoken-tutorial.org**
- **Choose the minute and second where you have the question**
- **Explain your question briefly**
- **Someone from our team will answer them**

Acknowledgements

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- More information on this Mission is available at http://spoken-tutorial.org/NMEICT-Intro