

Bootcamps for Emerging Technologies and essential Skills



Internet of Things

WORKSHOP



developed by: ECECT



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Project Number: 2022-1-CY01-KA210-VET-000082706

Introduction to ARDUINO



Class code:

1.Goto

<https://www.tinkercad.com/joinclass>

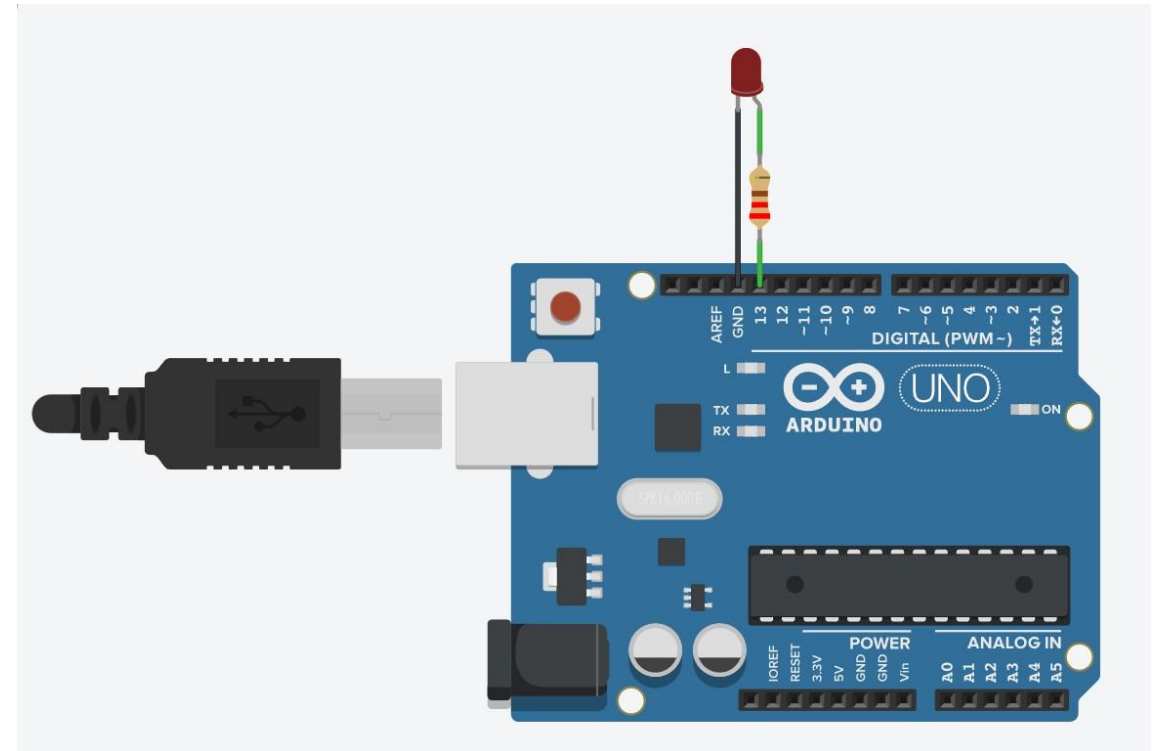
Enter the class code: U7QU48ZWB

U7Q U48 ZWB

<https://www.tinkercad.com/joinclass/U7QU48ZWB>

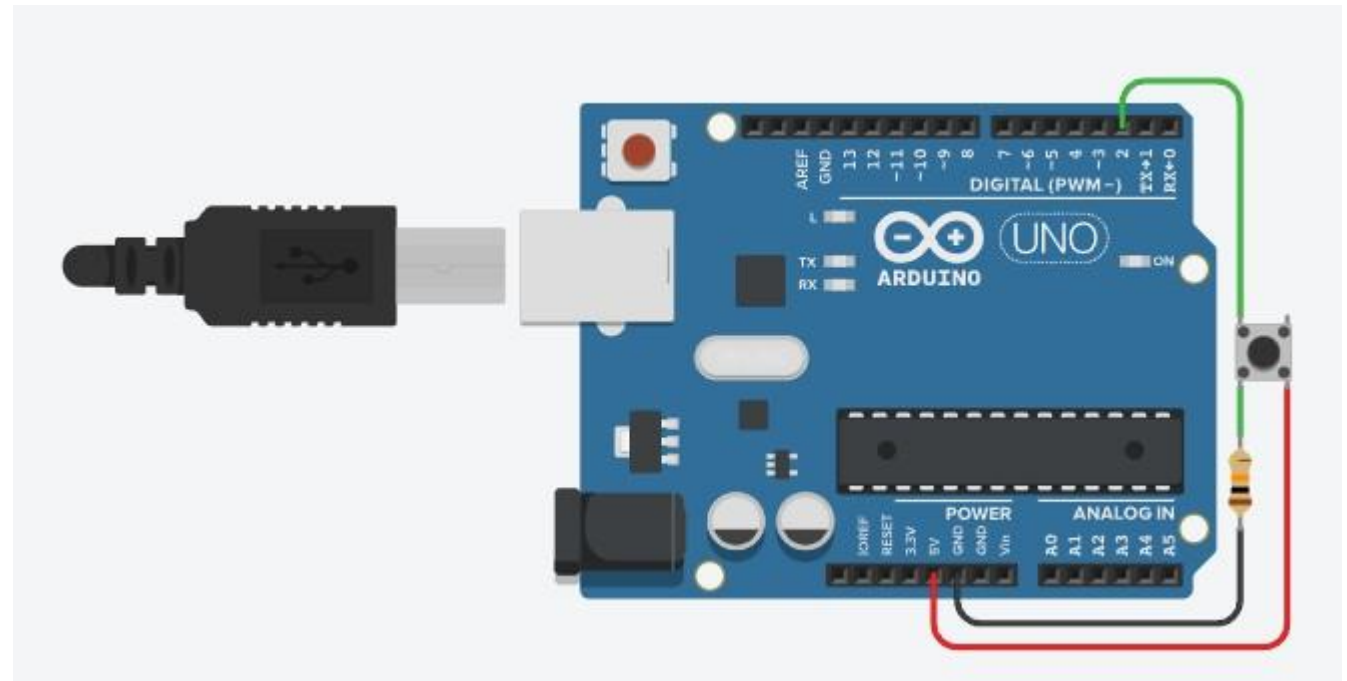
Simple LED blink

- Start simulation
- Check the code
 - PIN 13
 - HIGH
 - LOW
- Change the code
 - WAIT TIME
 - HIGH
 - LOW



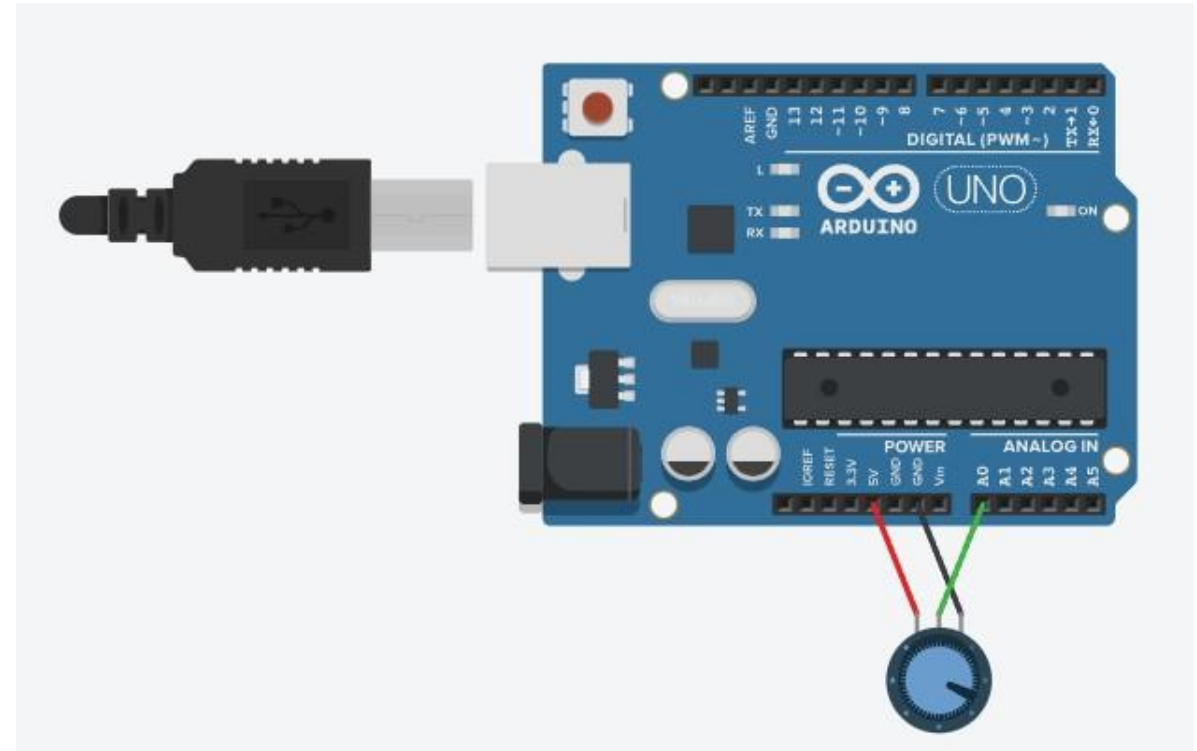
Using Serial Monitor / Digital Input

- Start simulation
- Check the code
 - Press the button
 - Check the Serial monitor
- Change the code
 - Check again



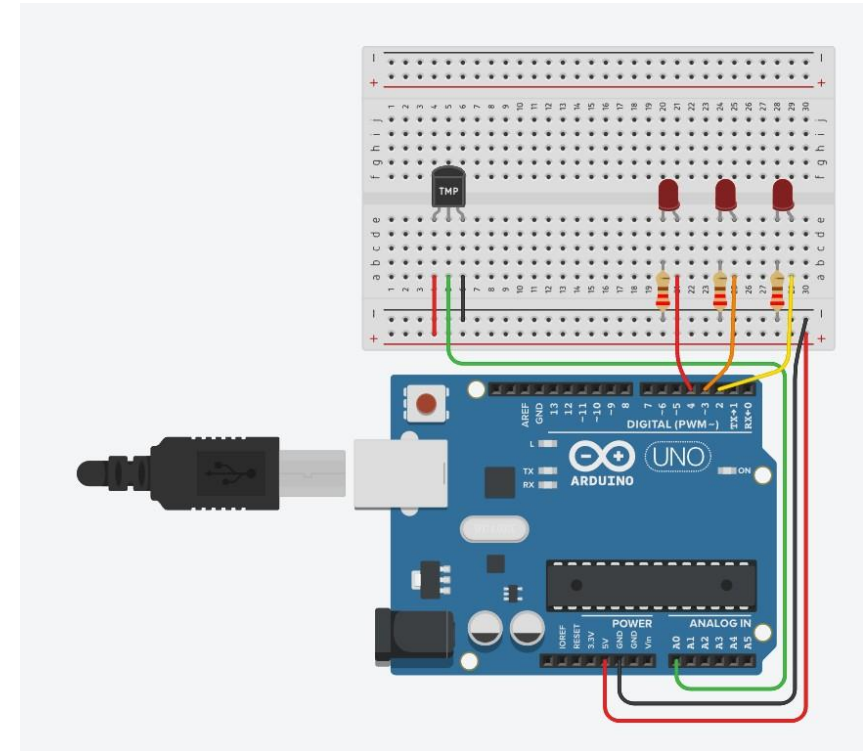
Using Serial Monitor / Analog Input

- Start simulation
- Check the code
 - Click on the potentiometer
 - Change the resistance
- Change the code



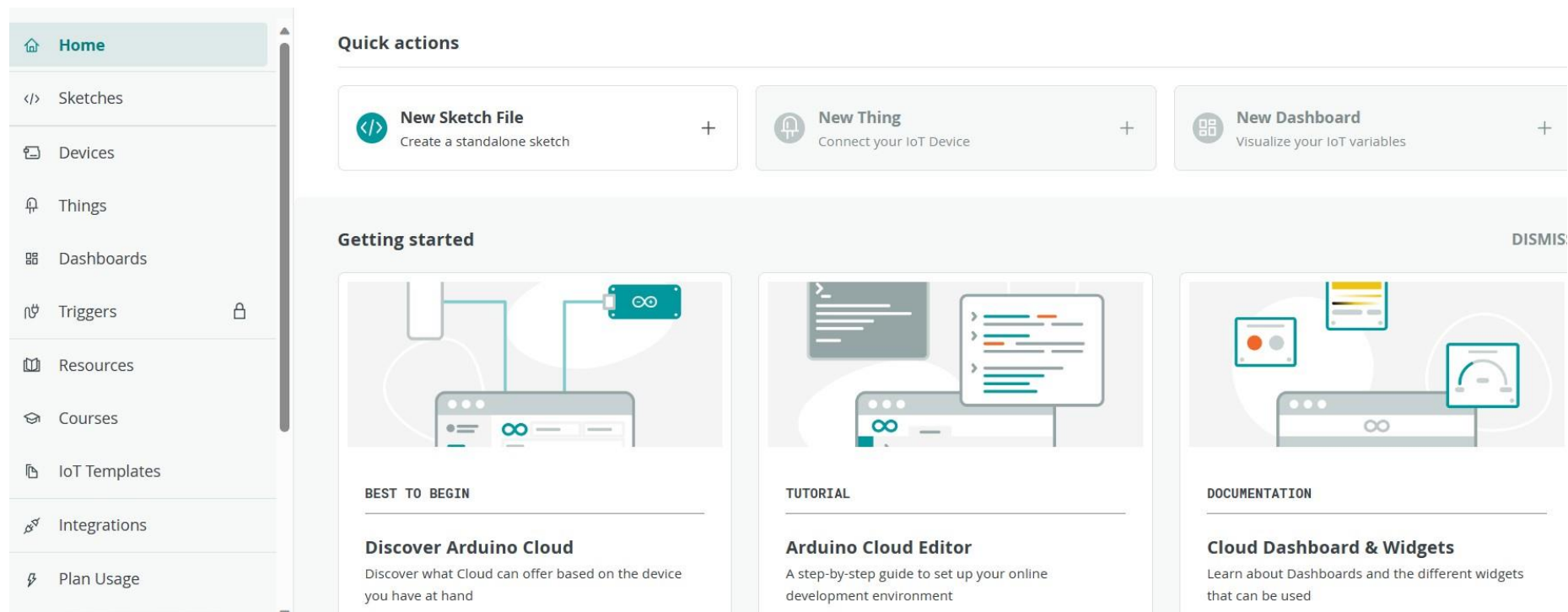
Temperature Sensor / Analog input

- Start simulation
- Check the code
 - Click on the TMP sensor
 - Change the temperature
- Change the code
 - Temp 10,20,30 → change
 - Check again



ARDUINO CLOUD

- [Home | Arduino https://app.arduino.cc/](https://app.arduino.cc/)



The screenshot displays the Arduino Cloud web application interface. On the left is a vertical navigation menu with the following items: Home (selected), Sketches, Devices, Things, Dashboards, Triggers (with a lock icon), Resources, Courses, IoT Templates, Integrations, and Plan Usage. The main content area is divided into several sections:

- Quick actions:** Three cards are visible: "New Sketch File" (Create a standalone sketch), "New Thing" (Connect your IoT Device), and "New Dashboard" (Visualize your IoT variables).
- Getting started:** A section with a "DISMISS" button on the right, containing three cards:
 - BEST TO BEGIN:** "Discover Arduino Cloud" - Discover what Cloud can offer based on the device you have at hand.
 - TUTORIAL:** "Arduino Cloud Editor" - A step-by-step guide to set up your online development environment.
 - DOCUMENTATION:** "Cloud Dashboard & Widgets" - Learn about Dashboards and the different widgets that can be used.

IoT Battery calculator

- <https://www.of-things.de/battery-life-calculator.php>
 - Experiment by changing the
 - Duration of code execution
 - Sleep time (120sec, 1h 3600sec, 86400sec)
 - Consumption in sleep mode
 - $80\ \mu\text{A}$, $800\ \mu\text{A}$
 - Change battery size
 - 4400mAh

Simply enter your data in the form below!

Inputs marked with a * (asterisk) have switchable units, change with a click on it. The results will be presented automatically.

Software

duration of code execution

sec

sleep time

sec

Hardware

consumption during code execution

mA

consumption in sleep mode*

μA

Battery

power of battery

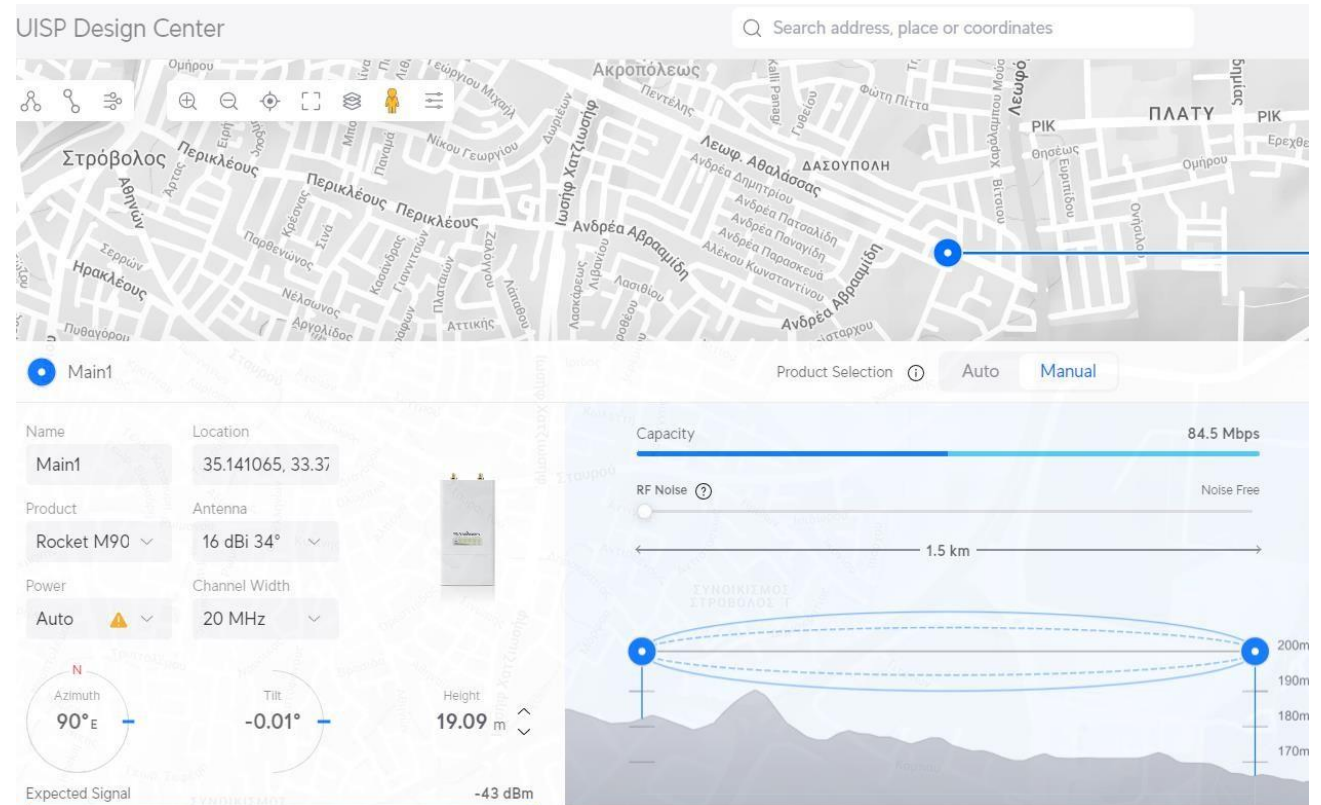
mAh

discharge safety

%

UISP DESIGN CENTRE

- <https://ispdesign.ui.com/>
- Place point to point link
- Click on the point
- Select manual
- Change product
- Change Antenna
- Change position
- Select 900Mhz
- Select 2.4Ghz products

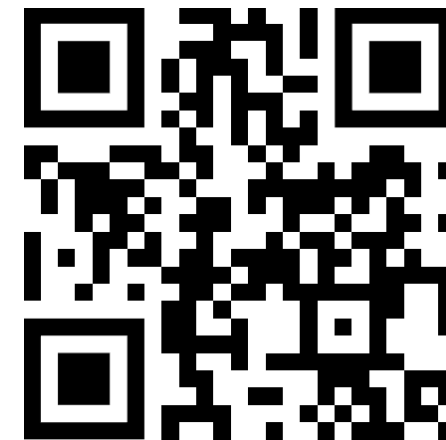




For more information:

www.betesproject.eu

www.facebook.com/BETESproject



Thank you!

✉ ecect.projects@gmail.com

☎ + 357 96520112 (Cyprus)

