

# CLUB **ROBOTIQUE** FSTH

## Formation Arduino AVEC ISIS PROTEUS



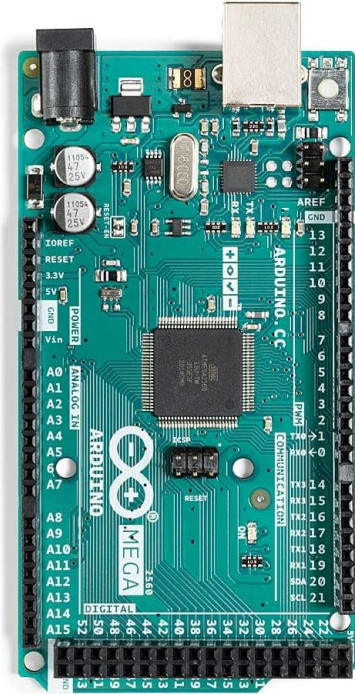
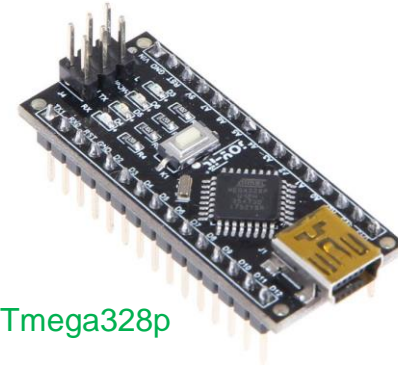
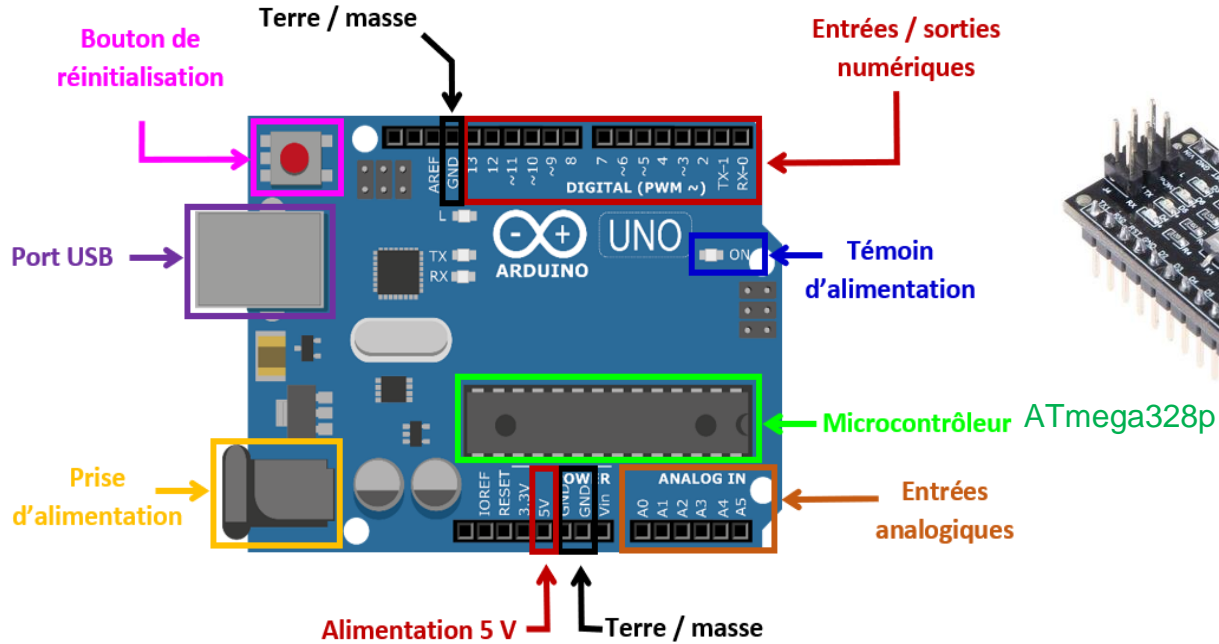
Présenter par :  
BOULBALAH Lahcen

# PLAN

- **Définition Arduino**
- **Les différent types Arduino**
- **Capteur Arduino**
- **Datasheet**
- **IDE Arduino**
- **ISIS Proteus**
- **Example**

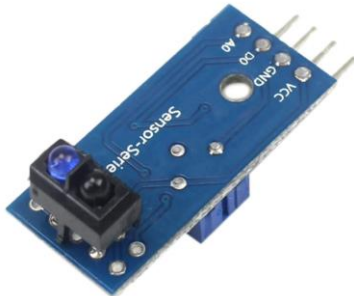
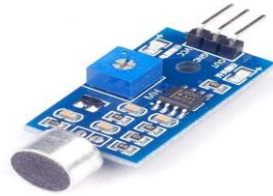
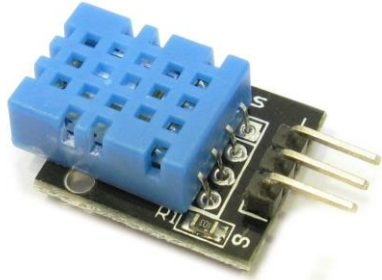


# Définition Arduino





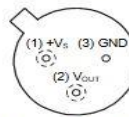
# Les différent types des capteurs Arduino



# Datasheet

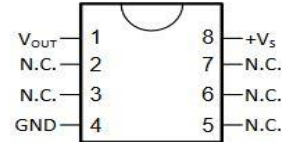
une fiche technique est un document qui résume les performances et autres caractéristiques d'un produit, d'une machine, d'un composant (par exemple composant électronique), d'un sous-système (par exemple, une alimentation) ou d'un logiciel dans suffisamment de détails qui permettent à un acheteur de comprendre la conception et le rôle du composant ,

NDV Package  
3-Pin TO-CAN  
(Top View)



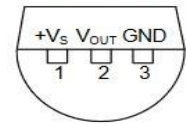
Case is connected to negative pin (GND)  
Refer the second NDV0003H page for reference

D Package  
8-PIN SOIC  
(Top View)

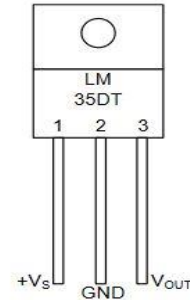


N.C. = No connection

LP Package  
3-Pin TO-92  
(Bottom View)



NEB Package  
3-Pin TO-220  
(Top View)



Tab is connected to the negative pin (GND).

**NOTE:** The LM35DT pinout is different than the discontinued LM35DP



datasheet lm35

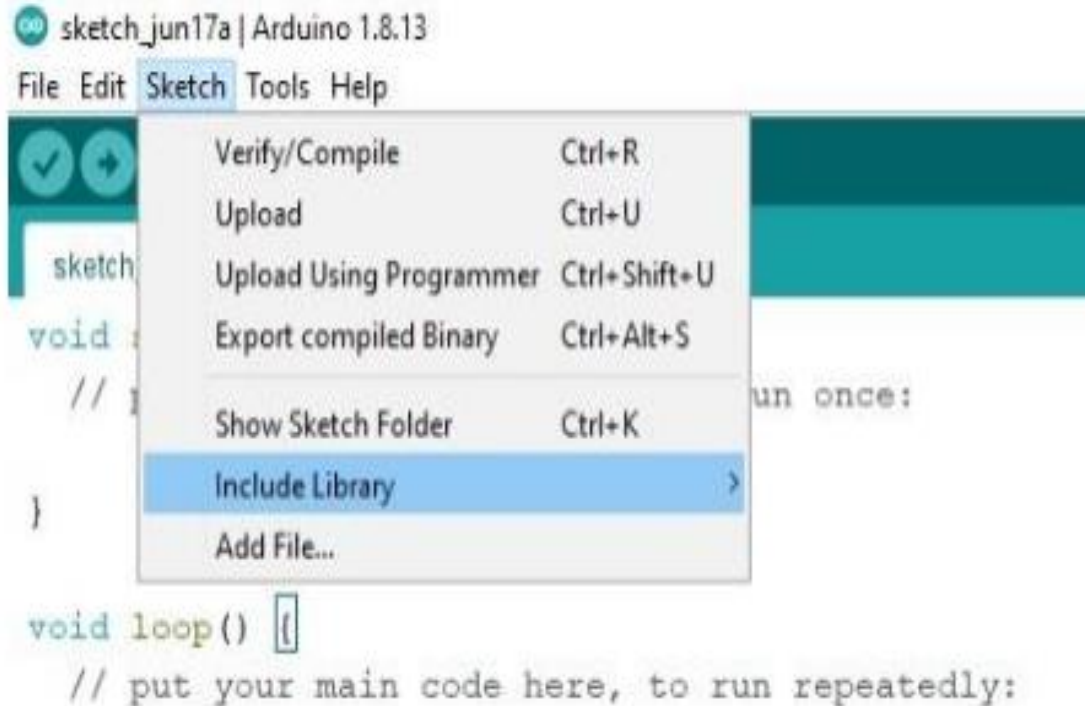


# Software utilise



**The Arduino IDE**

## IDE Arduino include Library



Type

All



Topic

All

**Arduino Cloud Provider Examples**

by Arduino

Examples of how to connect various Arduino boards to cloud providers

[More info](#)

Version 1.2.0



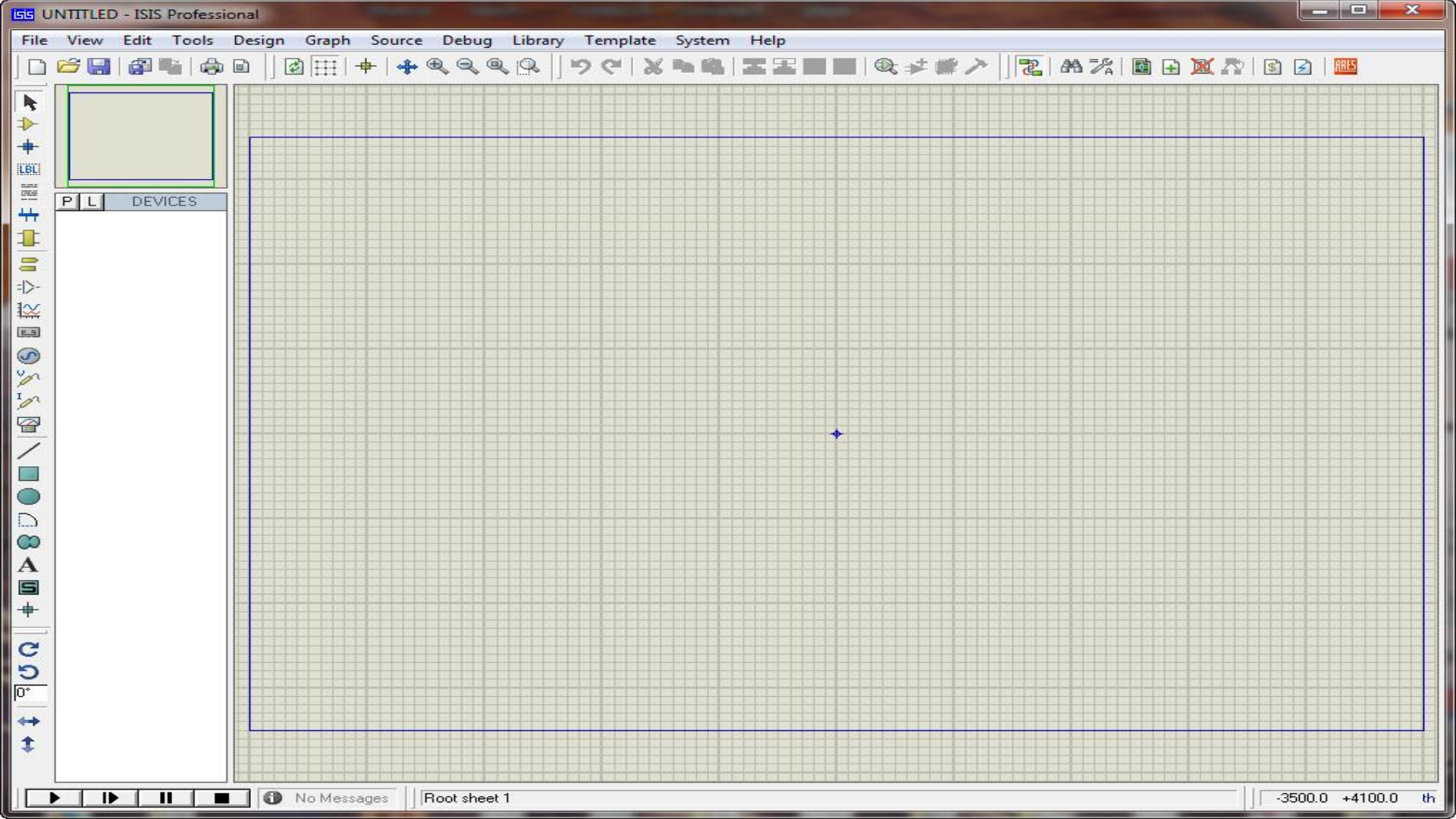
Install

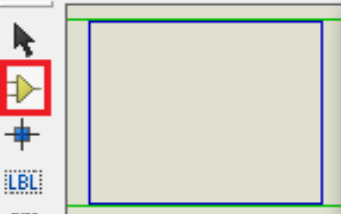
**Arduino Low Power**

by Arduino

**Power save primitives features for SAMD and nRF52 32bit boards** With this library you can manage the low power states of newer Arduino boards[More info](#)**Arduino SigFox for MKRFox1200**by Arduino Version 1.0.4 **INSTALLED****Helper library for MKRFox1200 board and ATAB8520E Sigfox module** This library allows some high level operations on Sigfox module, to ease integration with existing projects[More info](#)







P L DEVICES

# Pick Devices

Keywords:

LED

Match whole Words?

Show only parts with models?

Category:

(All Categories)  
 Analog ICs  
 Diodes  
 Electromechanical  
 Inductors  
 Microprocessor ICs  
 Modelling Primitives  
 Operational Amplifiers  
 Optoelectronics  
 Switches & Relays  
 Switching Devices  
 TTL 74 series  
 TTL 74LS series  
 TTL 74S series

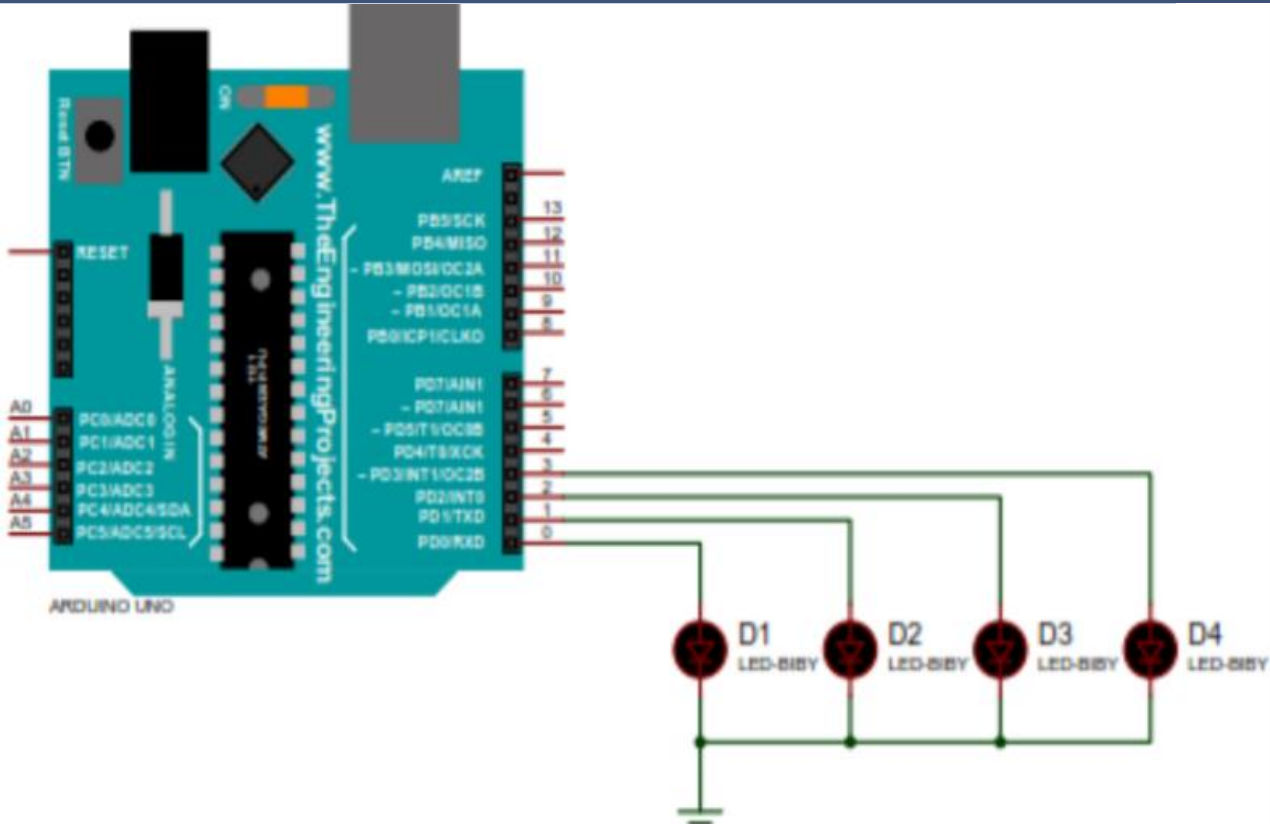
Results (26):

Device	Library	Description
DIODE-LED	DEVICE	Generic light emitting diode (LED)
HDG12864L-4	DISPLAY	128x64 Graphical LCD with SED1565 controller, Parallel data in
HDG12864L-6	DISPLAY	128x64 Graphical LCD with SED1565 controller, Selectable Inte
HDM32GS12-B	DISPLAY	122x32 Graphical LCD with SED1520 controllers, LED Backligh
HDM32GS12Y-3	DISPLAY	122x32 Graphical LCD with SED1520 controllers, Selectable Int
LED	DEVICE	Generic light emitting diode (LED)
LED-BARGRAPH-GRN	DISPLAY	Green LED Bargraph Display
LED-BARGRAPH-RED	DISPLAY	Red LED Bargraph Display
LED-BIBY	ACTIVE	Animated BI-Colour LED model (Blue/Yellow) with Self-flashing
LED-BIGY	ACTIVE	Animated BI-Colour LED model (Green/Amber) with Self-flashing
LED-BIRG	ACTIVE	Animated BI-Colour LED model (Red/Green) with Self-flashing
LED-BIRY	ACTIVE	Animated BI-Colour LED model (Red/Yellow) with Self-flashing
LED-BLUE	ACTIVE	Animated LED model (Blue)
LED-GREEN	ACTIVE	Animated LED model (Green)
LED-RED	ACTIVE	Animated LED model (Red)
LED-YELLOW	ACTIVE	Animated LED model (Yellow)
LUMILED	DEVICE	Power LED generic model
MATRIX-5X7-BLUE	DISPLAY	5x7 Blue LED Dot Matrix Display
MATRIX-5X7-GREEN	DISPLAY	5x7 Green LED Dot Matrix Display
MATRIX-5X7-ORANGE	DISPLAY	5x7 Orange LED Dot Matrix Display
MATRIX-5X7-RED	DISPLAY	5x7 Red LED Dot Matrix Display
MATRIX-8X8-BLUE	DISPLAY	8x8 Blue LED Dot Matrix Display
MATRIX-8X8-GREEN	DISPLAY	8x8 Green LED Dot Matrix Display
MATRIX-8X8-ORANGE	DISPLAY	8x8 Orange LED Dot Matrix Display
MATRIX-8X8-RED	DISPLAY	8x8 Red LED Dot Matrix Display

## Exemple Pratique

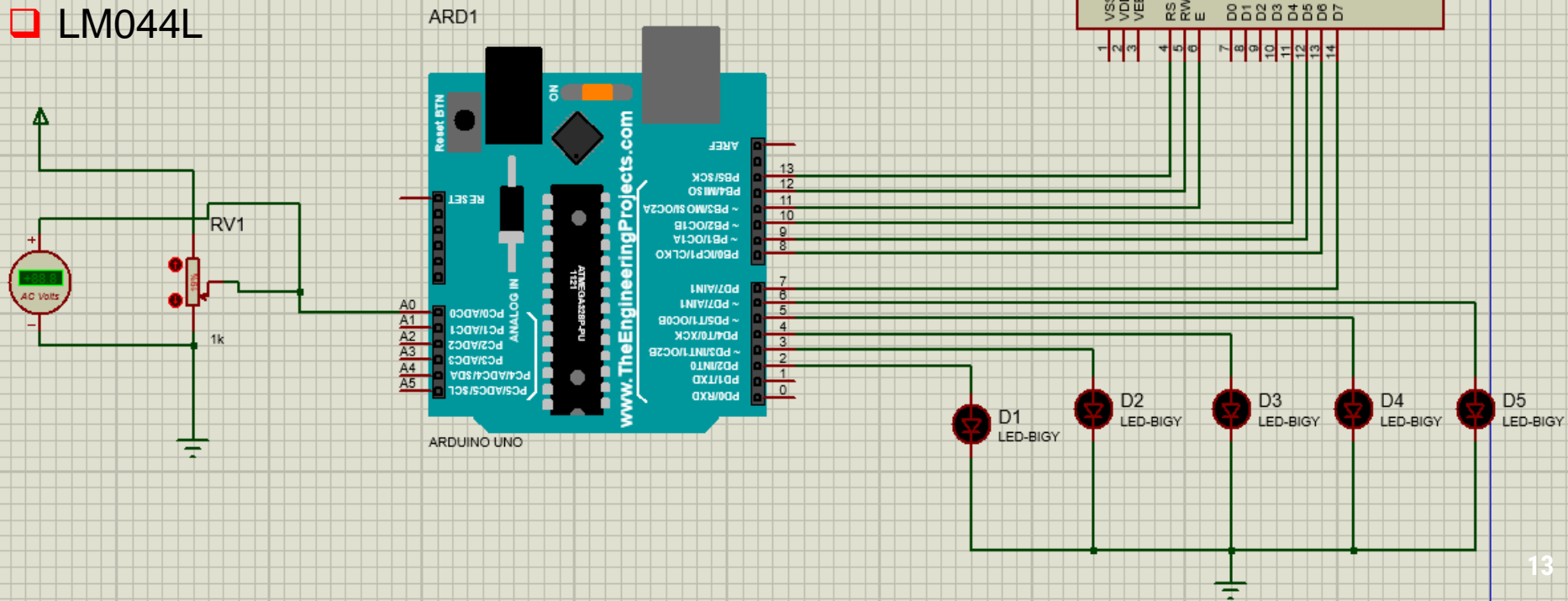
- Clignement une seul LED
- Clignement plusieurs LED
- Contrôle des LED avec une potentiomètre et LCD
- Button avec LED
- Compteur de 0 jusqu'à 9

# LED avec Button

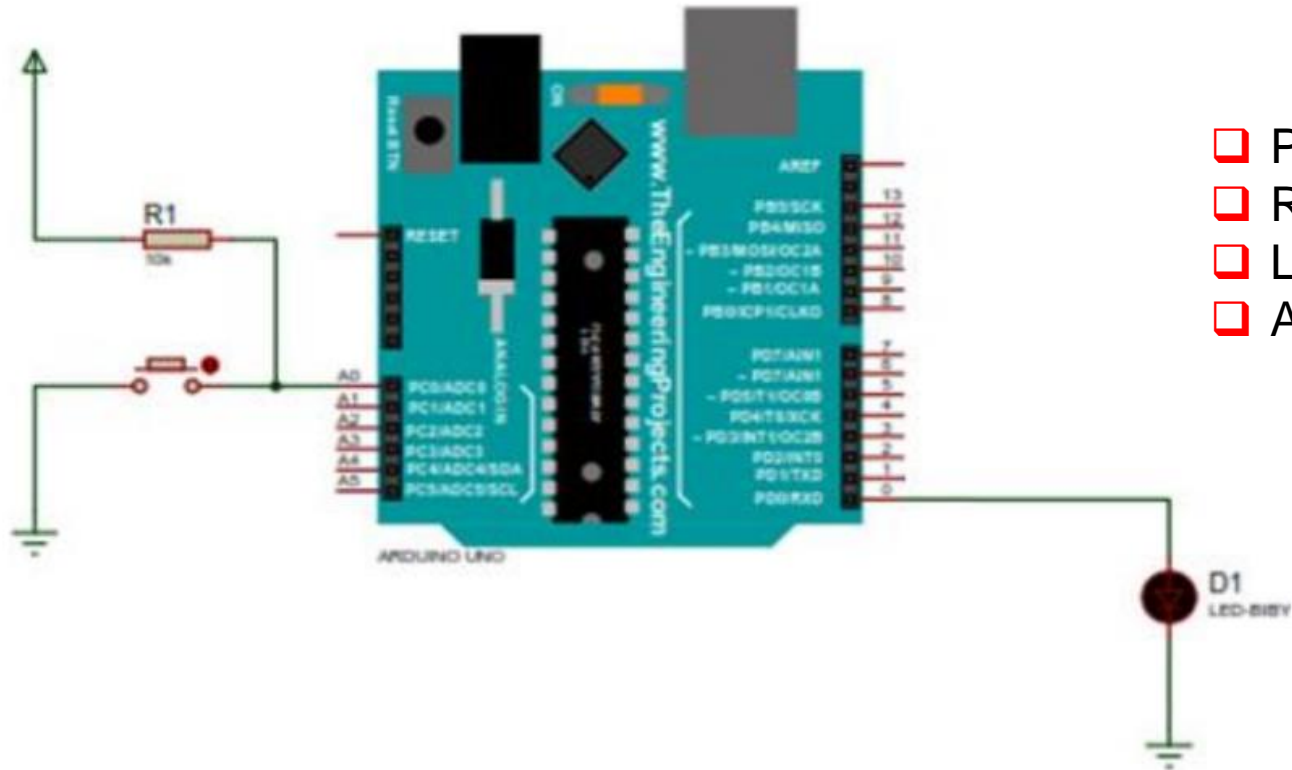


- ☐ Arduino
- ☐ LED

- ☐ Arduino
- ☐ LED
- ☐ POT-HG
- ☐ LM044L

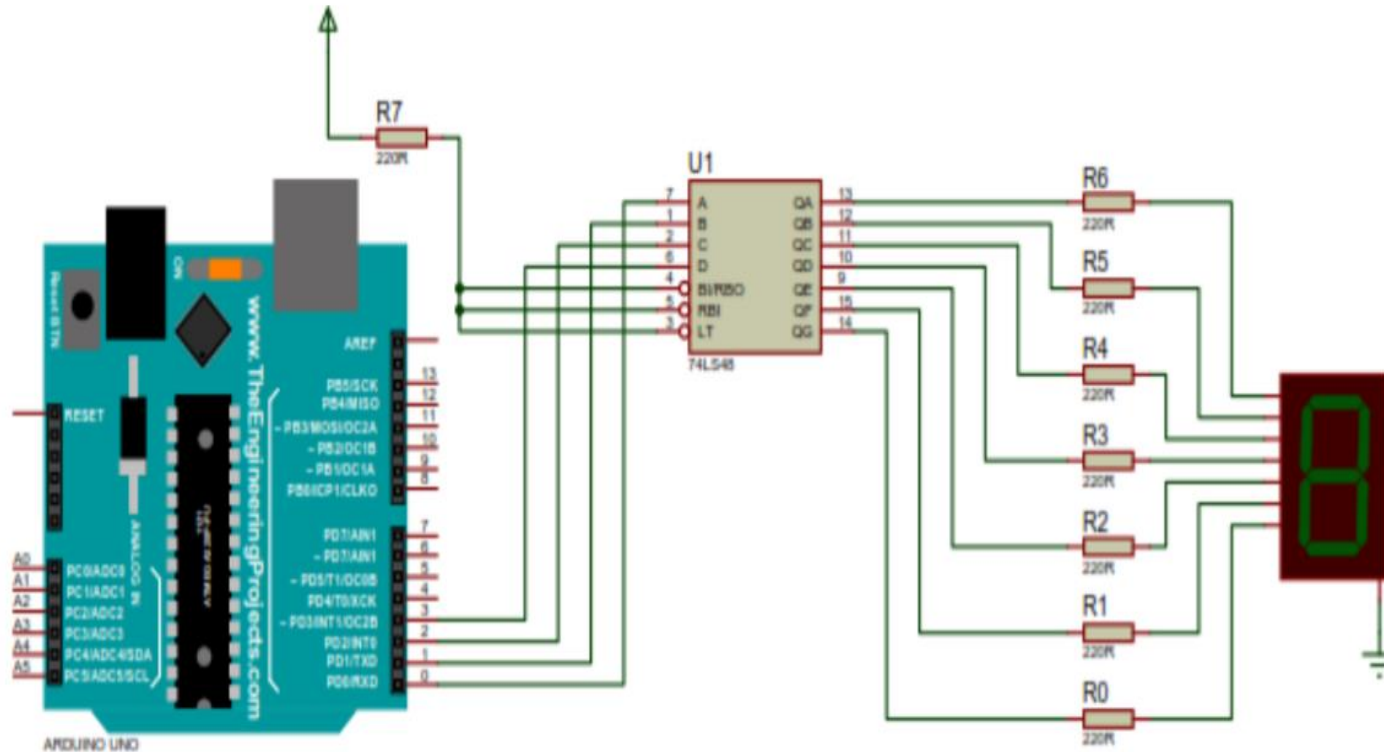


# LED avec Button



- ☐ Push button
- ☐ Resistor
- ☐ LED
- ☐ Arduino

# Compteur de 0 a 9



- ☐ 74LS48
- ☐ 7-Segment
- ☐ Arduino

La table de vérité du décodeur BCD est donnée par :

Décimal ou fonction	Entrées							Sorties						
	LT	RBI	D	C	B	A	BI / RBO	a	b	c	d	e	f	g
0	1	1	0	0	0	0	1	0	0	0	0	0	0	0
1	1	X	0	0	0	1	1	1	0	0	1	1	1	1
2	1	X	0	0	1	0	1	0	0	1	0	0	1	0
3	1	X	0	0	1	1	1	0	0	0	0	1	1	0
4	1	X	0	1	0	0	1	1	0	0	1	1	0	0
5	1	X	0	1	0	1	1	0	1	0	0	1	0	0
6	1	X	0	1	1	0	1	1	1	0	0	0	0	0
7	1	X	0	1	1	1	1	0	0	0	1	1	1	1
8	1	X	1	0	0	0	1	0	0	0	0	0	0	0
9	1	X	1	0	0	1	1	0	0	0	1	1	0	0
10	1	X	1	0	1	0	1	1	1	1	0	0	1	0
11	1	X	1	0	1	1	1	1	1	0	0	1	1	0
12	1	X	1	1	0	0	1	1	0	1	1	1	0	0
13	1	X	1	1	0	1	1	0	1	1	0	1	0	0
14	1	X	1	1	1	0	1	1	1	1	0	0	0	0
15	1	X	1	1	1	1	1	1	1	1	1	1	1	1
BI	X	X	X	X	X	X	0	1	1	1	1	1	1	1
RBI	1	0	0	0	0	0	0	1	1	1	1	1	1	1
LT	0	X	X	X	X	X	1	0	0	0	0	0	0	0



