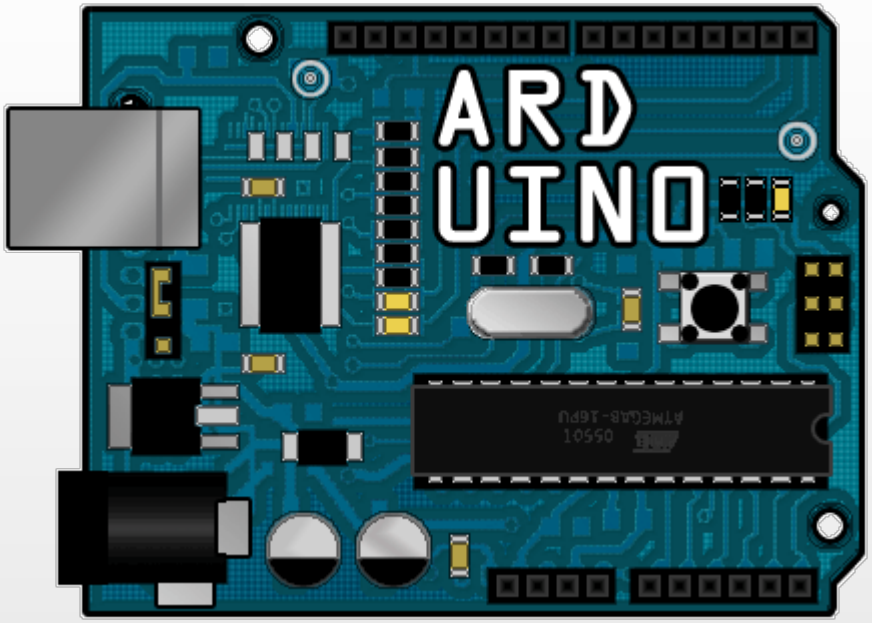
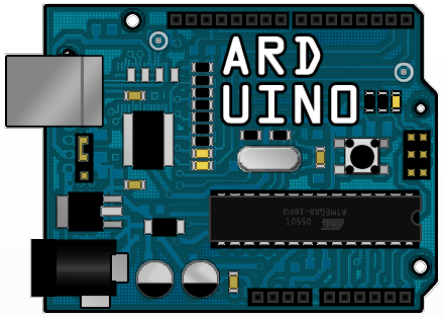
Arduino



http://www.flickr.com/photos/collinmel/2317520331/

Arduino Eğitimleri



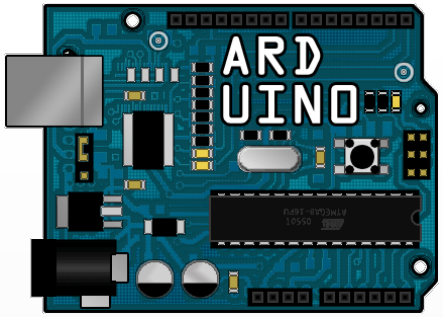
ARDUİNO

Kullanımı kolay,

açık kaynaklı donanım ve yazılımdan oluşan,

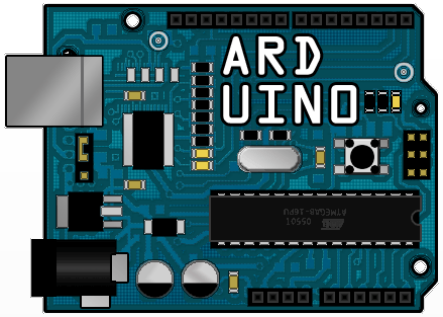
elektronik prototip geliştirme ortamıdır.

http://www.arduino.cc



ARDUİNO EKİBİ

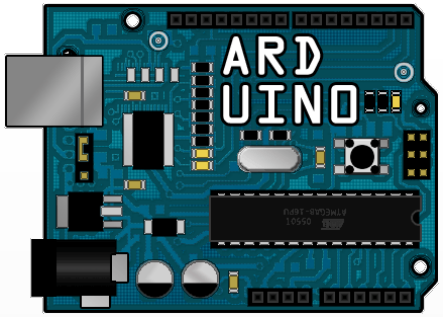
Massimo Banzi, David Cuartielles, Tom Igoe, Gianluca Martino, ve David Mellis



ARDUİNO

KULLANIMI KOLAY

- Alt seviye mikroişlemci bilgisi gerektirmez.
- Zengin kütüphane desteği
- 10 dakika içinde ilk uygulama gerçekleştirilebilir



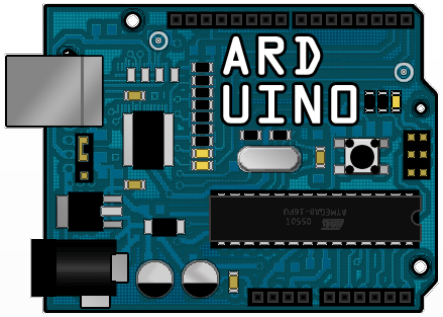
ARDUİNO

AÇIK KAYNAKLI DONANIM VE YAZILIMLAR

- Yazılımların kaynak kodlarına erişim serbesttir ve üzerlerinde istenildiği gibi değişiklik yapılabilir.

- Donanım tasarımları için de aynı şey geçerli.

- Yapacağınız tasarımlarda aynı lisansı sürdürmelisiniz!

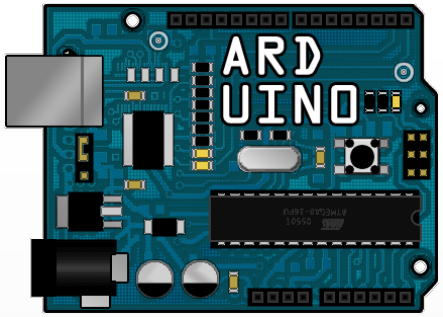


ARDUİNO

PROTOTİP GELİŞTİRME

- Kolay bir şekilde elektronik tasarımlar gerçekleştirmek mümkün.

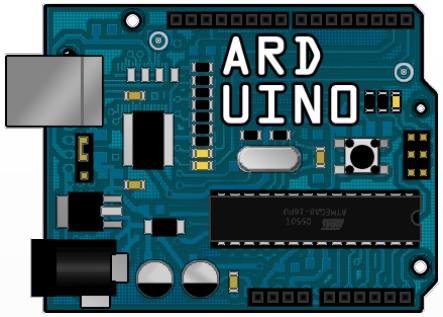
- İnteraktif sistem tasarlamak için ideal.



ARDUİNO

İNTERAKTİF SİSTEMLER

- Çevresiyle etkileşime giren ve belirli girdilere göre çıktılar üretebilen sistemler
- Yapay zeka olarak düşünülebilir.



ARDUİNO

ETKİ

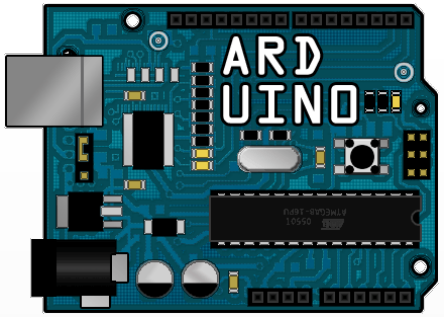
SENSÖRLER

DIŞ DÜNYA

İnteraktif Sistem

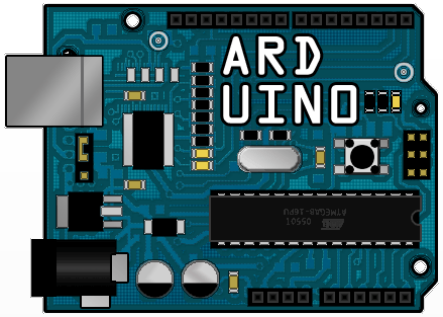
EYLEYİCİLER

TEPKİ



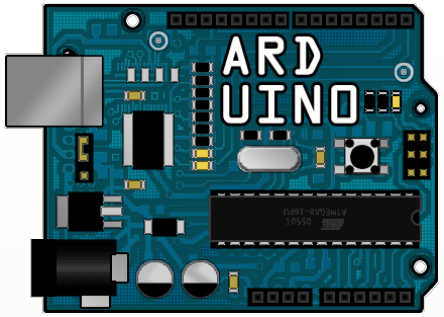
ARDUİNO

- ✓ Donanım
- ✓ Geliştirme Ortamı
- ✓ Topluluk



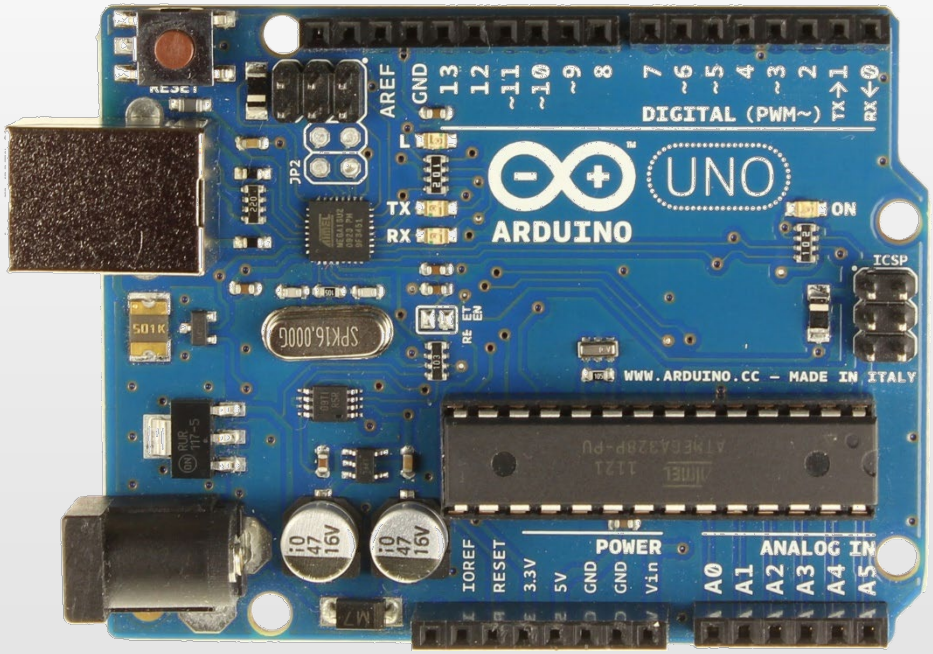
ARDUİNO

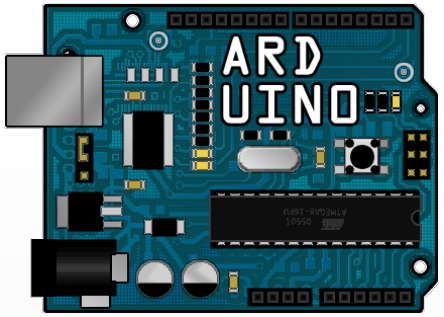
- ✓ **Donanım**


ARD
UINO

ARDUİNO

UNO


DIGITAL (PWM~)
UNO
ARDUINO
ON
ICSP
WWW.ARDUINO.CC – MADE IN ITALY
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5



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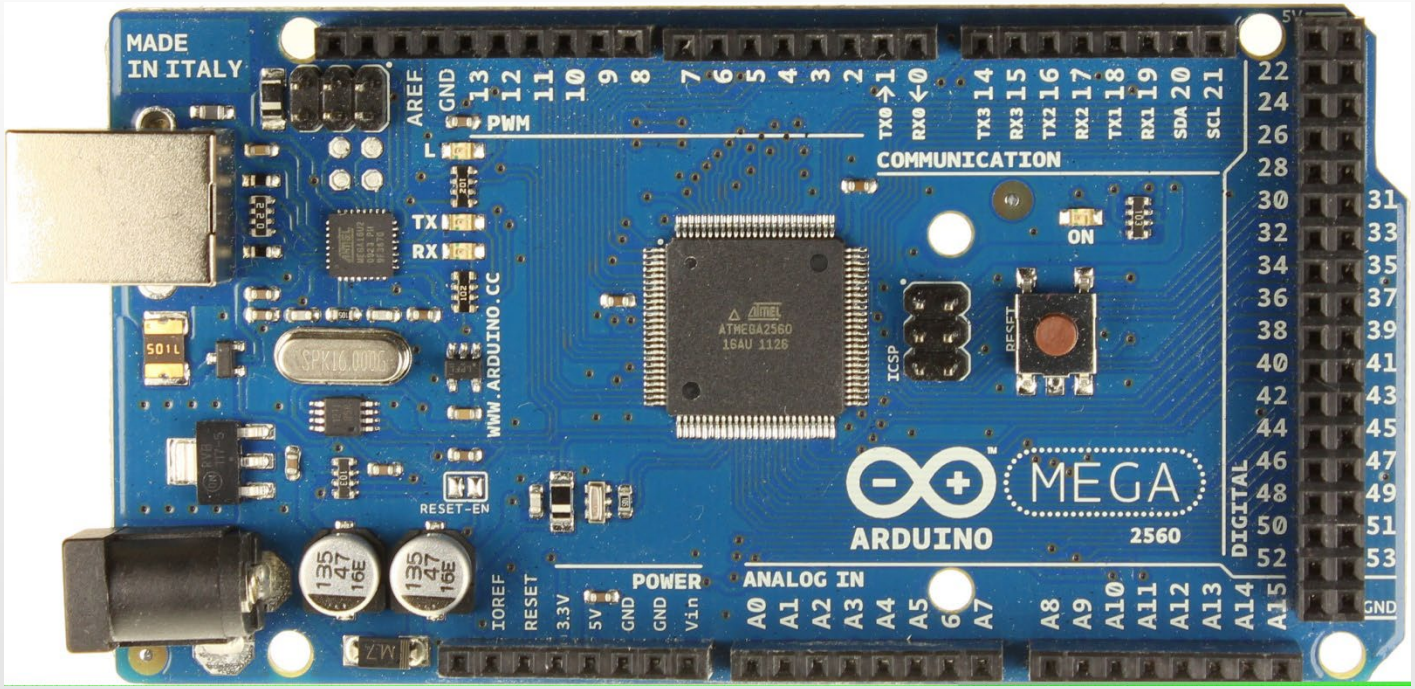
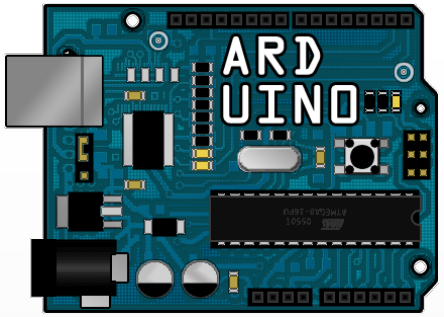
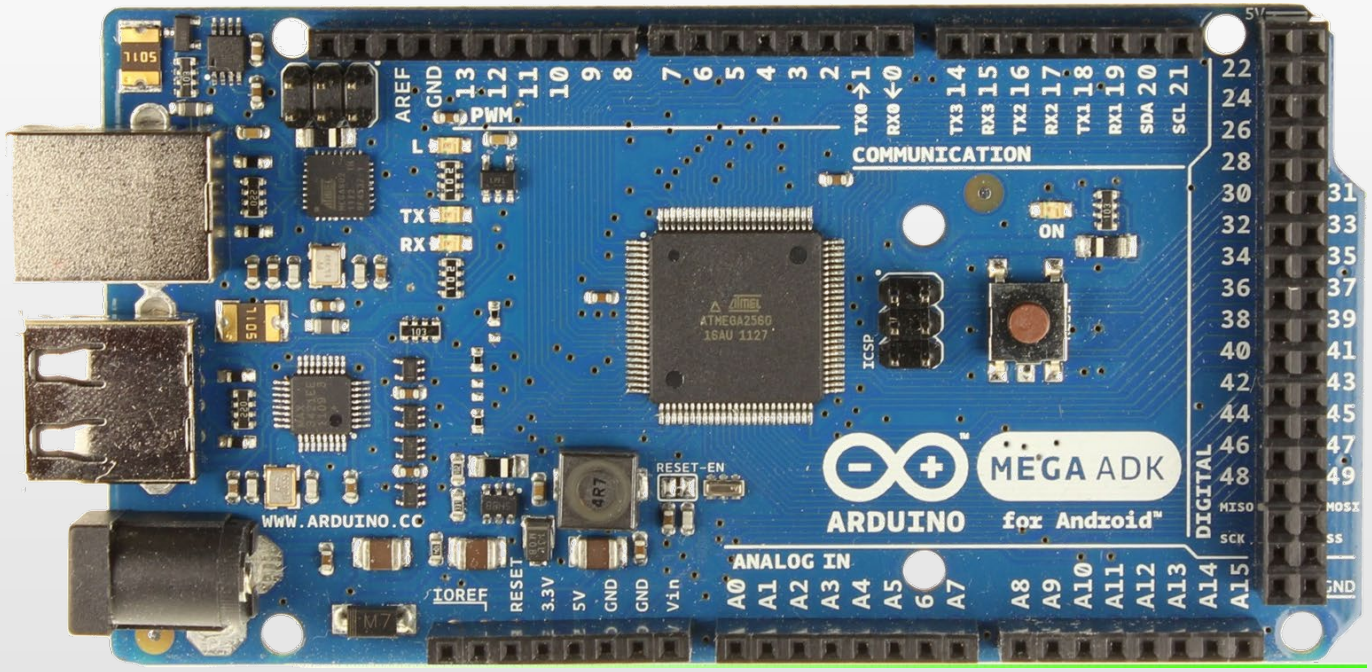
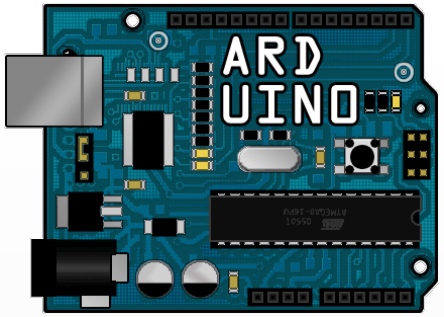




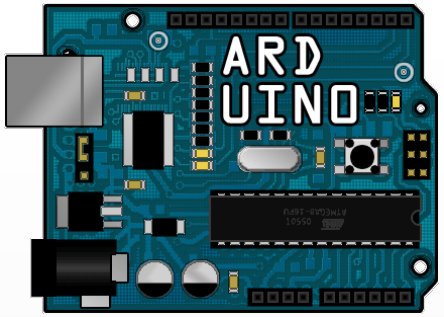
ARDUİNO

MEGA ADK





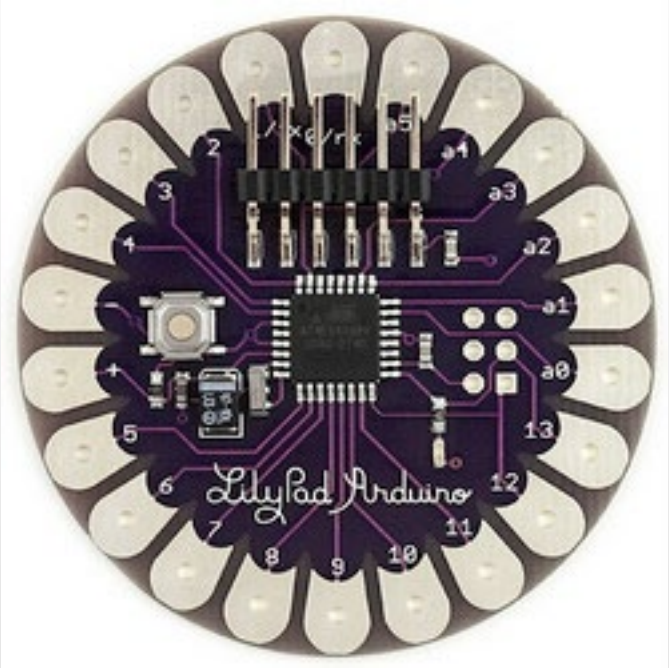
ARDUİNO MEGA ADK

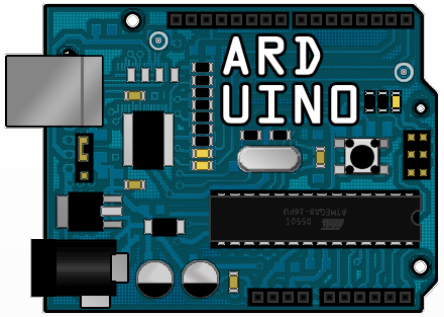


ARDUİNO

LILYPAD

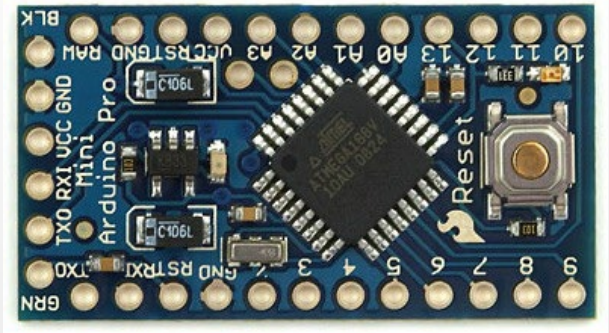

Photo: Leah Buechley

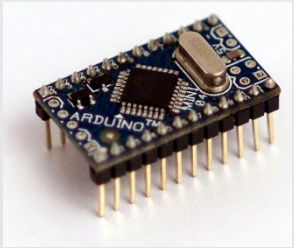


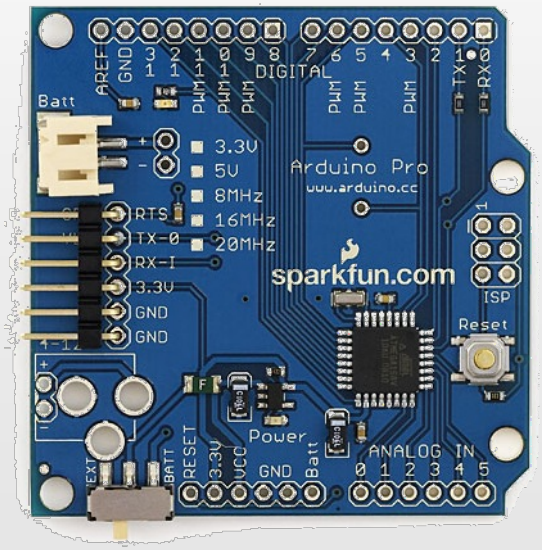


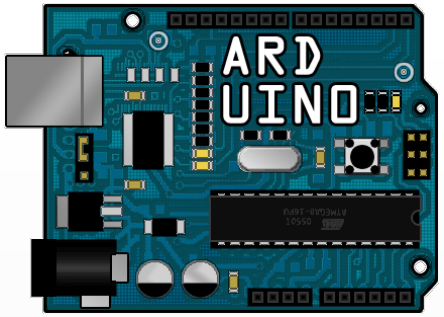
ARDUİNO

Mini / Mini Pro / Nano





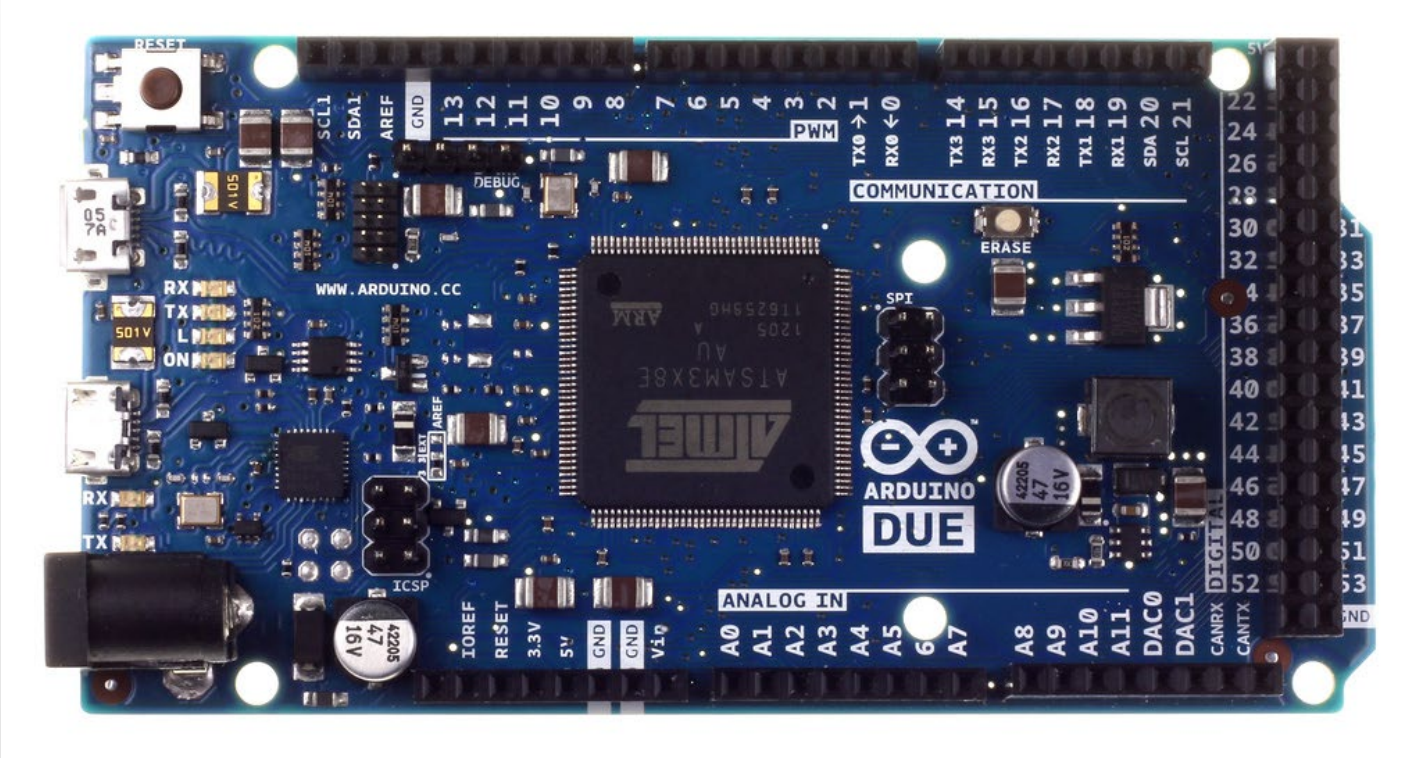


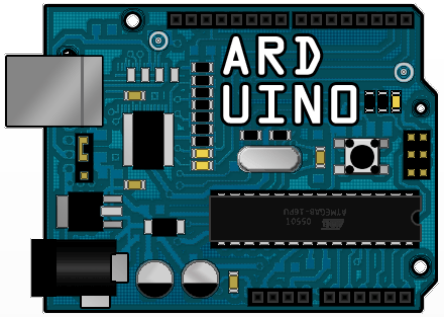


ARDUİNO

ARM POWERED

Son Yıldız: Arduino Due



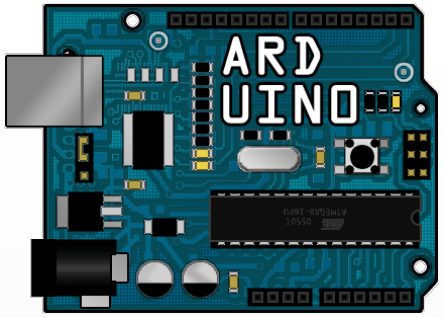


ARDUİNO

✓ Arduino açık kaynaklı olduğundan internette birçok Arduino “benzeri” ürün bulmak mümkün.

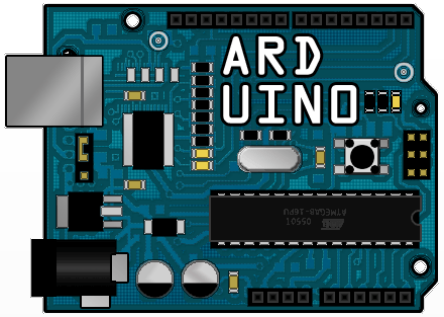
✓ Burada gördüklerimiz sadece Arduino ekibi tarafından tasarlanan ürünler

✓ Kendi donanımlarınızı üretmekte özgürsünüz!



ARDUİNO

- ✓Geliştirme Ortamı



ARDUİNO

Blink | Arduino 1.0

File Edit Sketch Tools Help

Blink

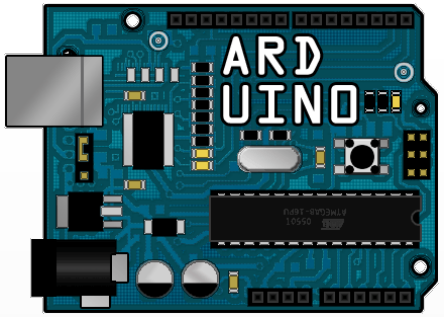
```
/*
  Blink
  Turns on an LED on for one second, then off for one second, repea

  This example code is in the public domain.
 */

void setup() {
  // initialize the digital pin as an output.
  // Pin 13 has an LED connected on most Arduino boards:
  pinMode(13, OUTPUT);
}

void loop() {
  digitalWrite(13, HIGH);   // set the LED on
  delay(1000);              // wait for a second
  digitalWrite(13, LOW);    // set the LED off
  delay(1000);              // wait for a second
}
```

1 Arduino Uno on COM5

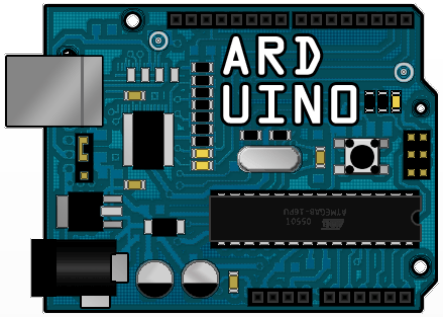


ARDUİNO

✓ Geliştirme ortamı ile Arduino programlarının yazılıp derlenip kartlar üzerine yüklenebiliyor

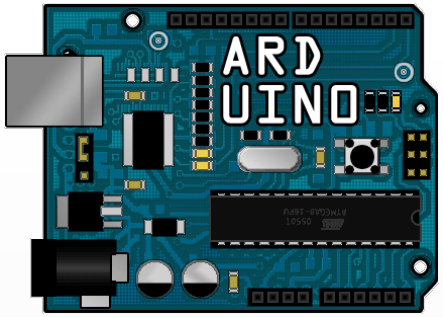
✓ Arduino programlamada C / C++ /Java temelli bir dil kullanılıyor.

✓ Kütüphaneler sayesinde donanım seviyesine inmeye gerek yok



ARDUİNO

✓**Topluluk**



ARDUİNO

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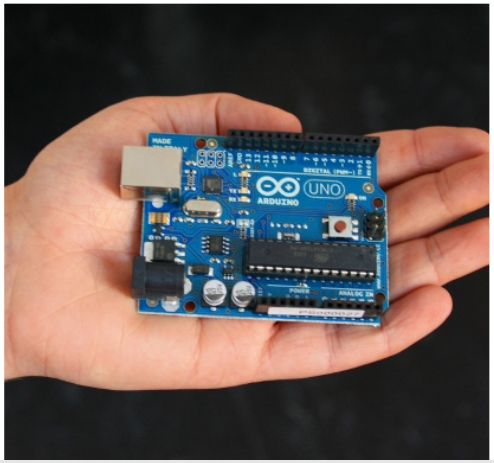
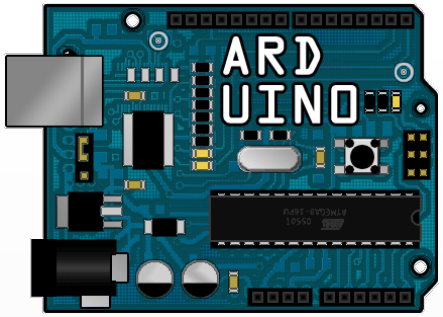


Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments.

Arduino can sense the environment by receiving input from a variety of sensors and can affect its surroundings by controlling lights, motors, and other actuators. The microcontroller on the board is programmed using the Arduino programming language (based on Wiring) and the Arduino development environment (based on Processing). Arduino projects can be stand-alone or they can communicate with software running on a computer (e.g. Flash, Processing, MaxMSP).

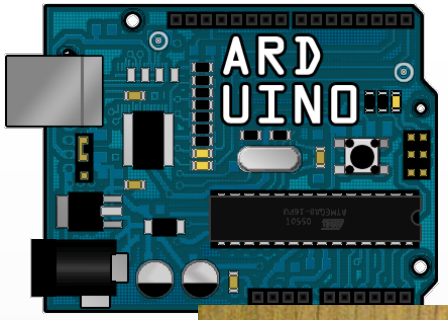


ARDUİNO

• Arduino web sitesinde programlama, donanımlar ve kütüphaneler hakkında bilgiler yer alıyor.

• İnternet üzerinde oldukça canlı bir Arduino topluluğu var.

• Aklınıza gelebilecek hemen her konuda yapılmış projeler bulabilirsiniz.



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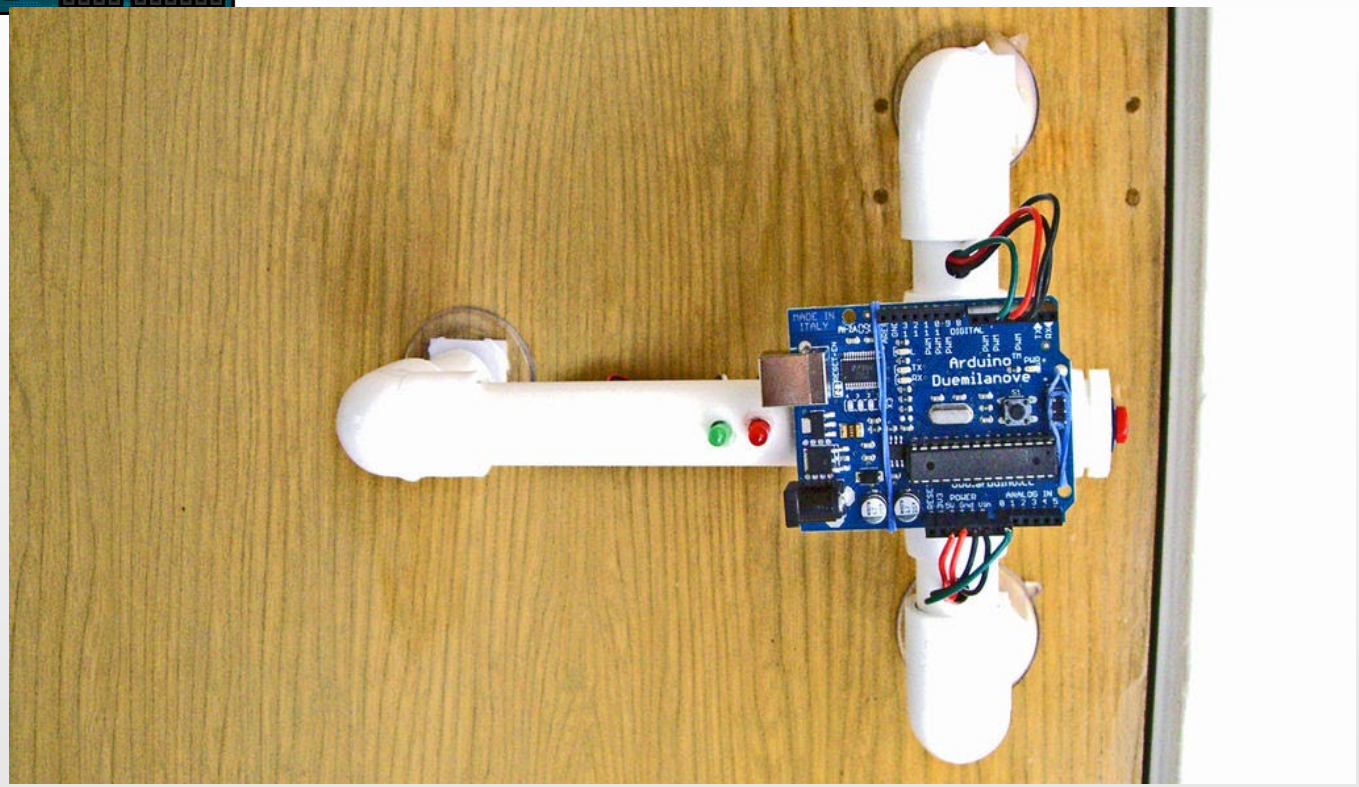
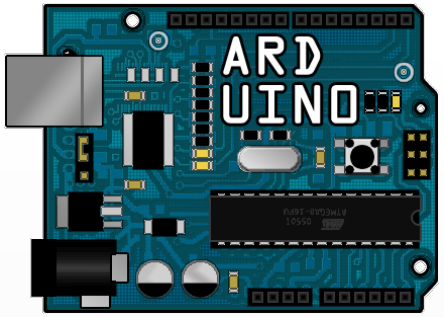


http://www.instructables.com/id/Secret-Knock-Detecting-Door-Lock/



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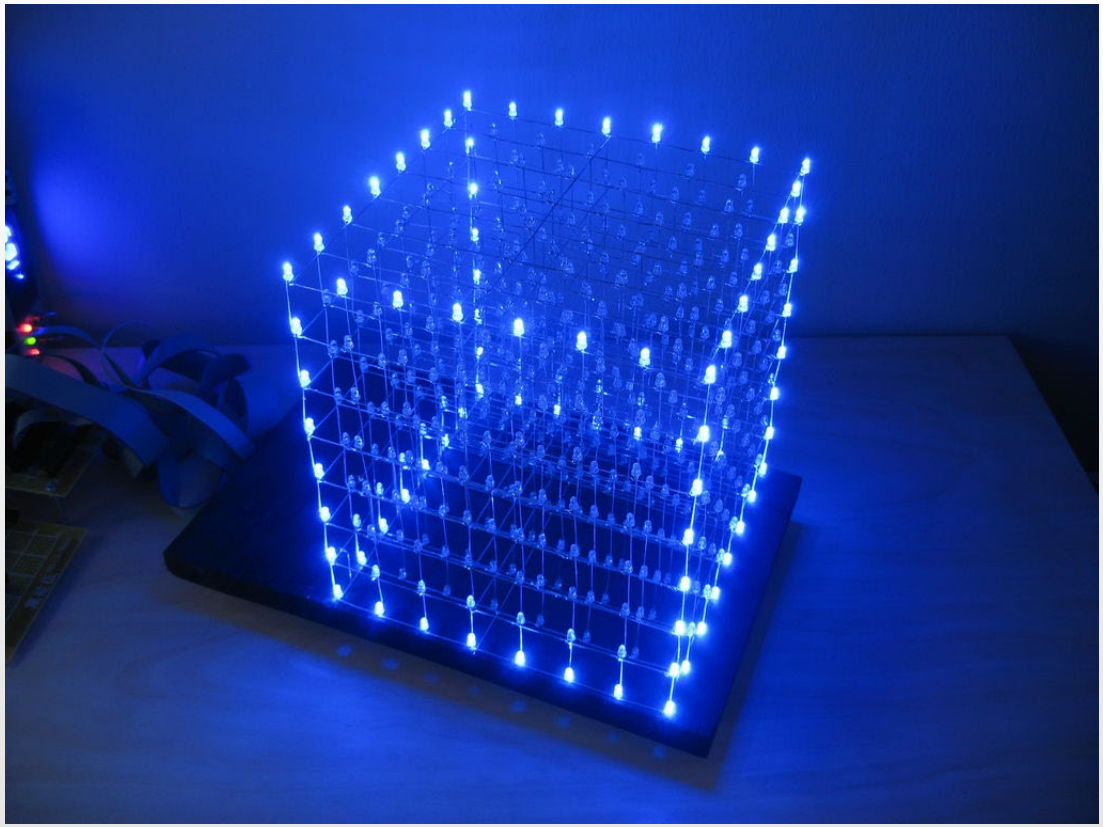
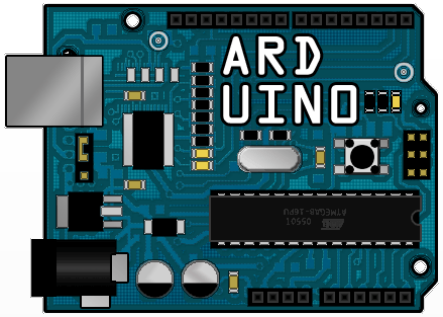
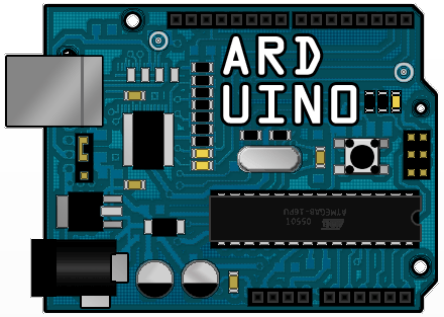


http://www.instructables.com/id/Led-Cube-8x8x8/



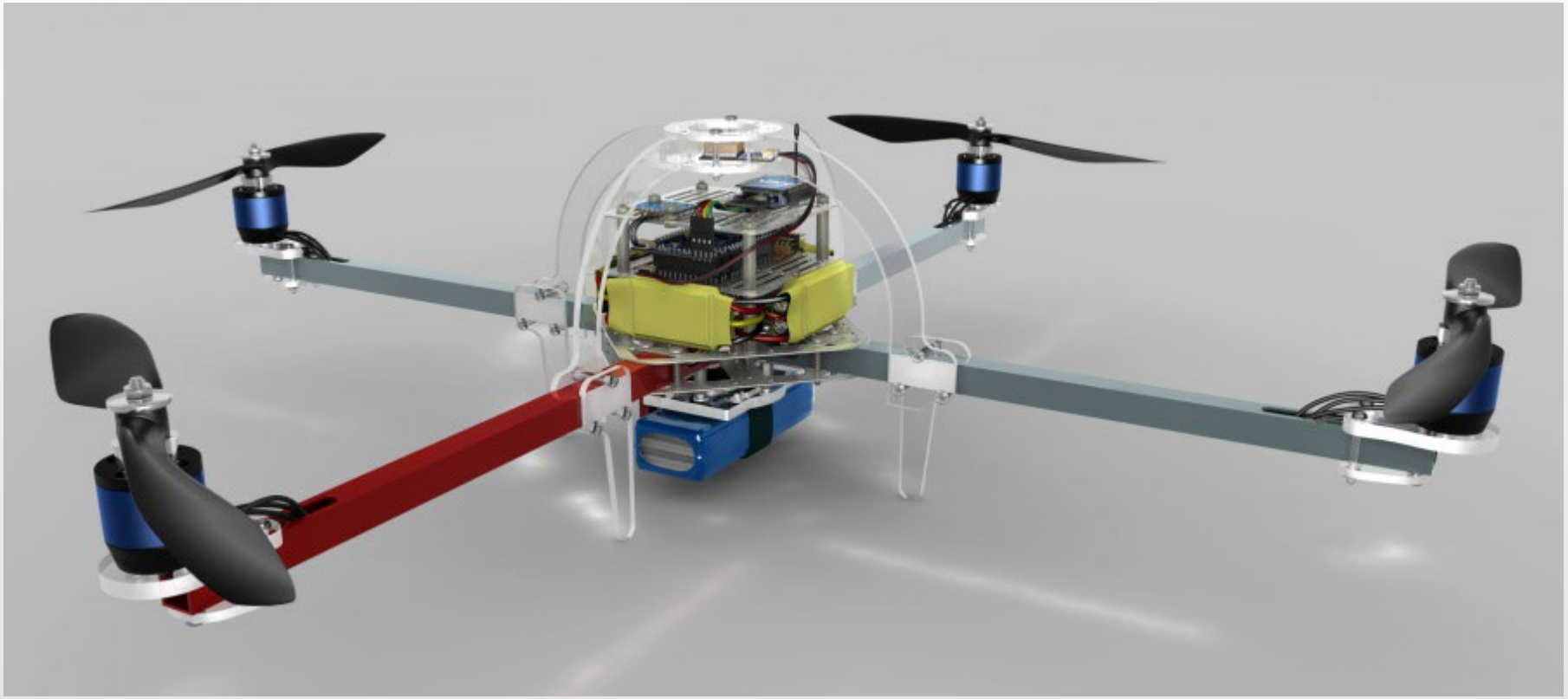
ARDUİNO

http://www.instructables.com/id/turn-signal-biking-jacket/

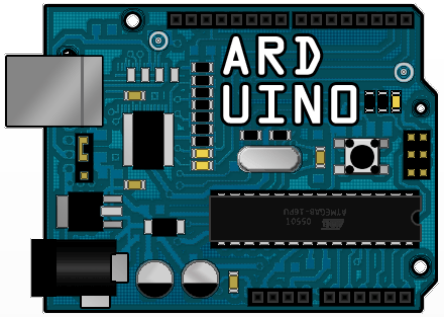


ARDUİNO

ArduCopter

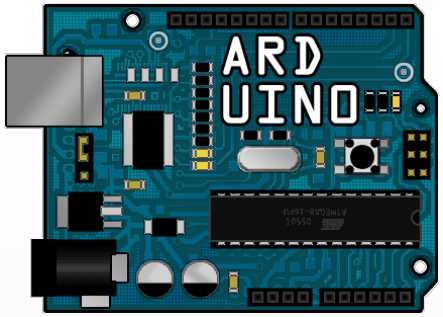


http://code.google.com/p/arducopter/



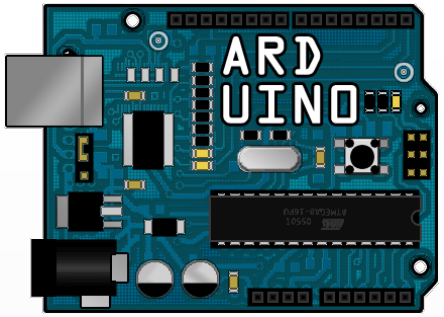
ARDUİNO

Neleri öğrenmeliyiz?



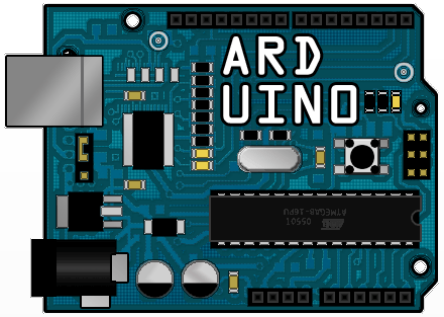
ARDUİNO

- ✓ **Programlama**



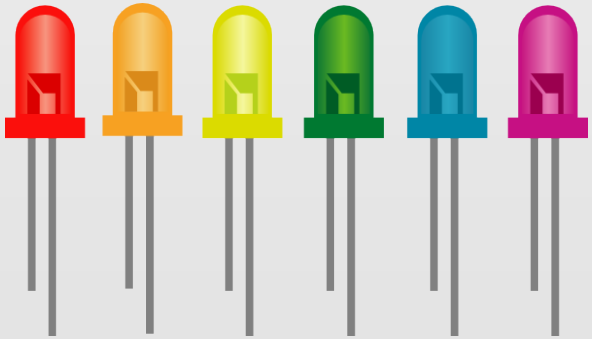
ARDUİNO

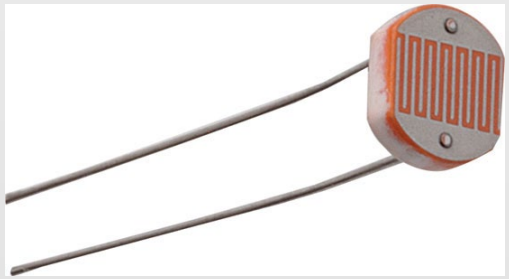
- ✓ **Elektronik**

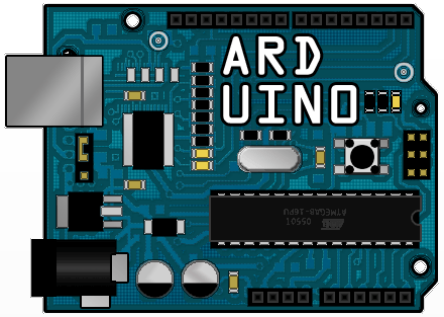


Temel Elektronik

- ✓ Devre Kurma
- ✓ Breadboard kullanımı
- ✓ Temel komponentler
- ✓ Temel Analog ve Dijital Elektronik

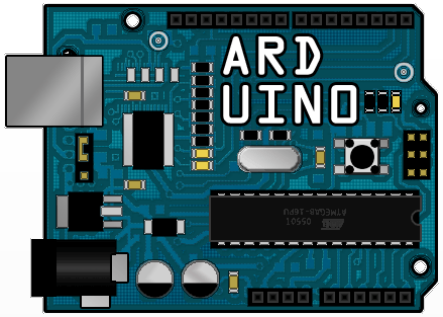






Temel Elektronik

Temel elektronik konusunda İnternet üzerinde bolca kaynak bulunuyor!



Temel Elektronik

Çizgi Tagem üzerindeki temel elektronik dersleri
http://www.cizgi-tagem.org/e-kampus/lesson.aspx?id=2

MEGEP (Mesleki Eğitimi Güçlendirme Projesi) Elektrik / Elektronik Modülleri
http://megep.meb.gov.tr/mte_program_modul/

320 Volt: http://www.320volt.com

Picproje Forum: http://www.picproje.org