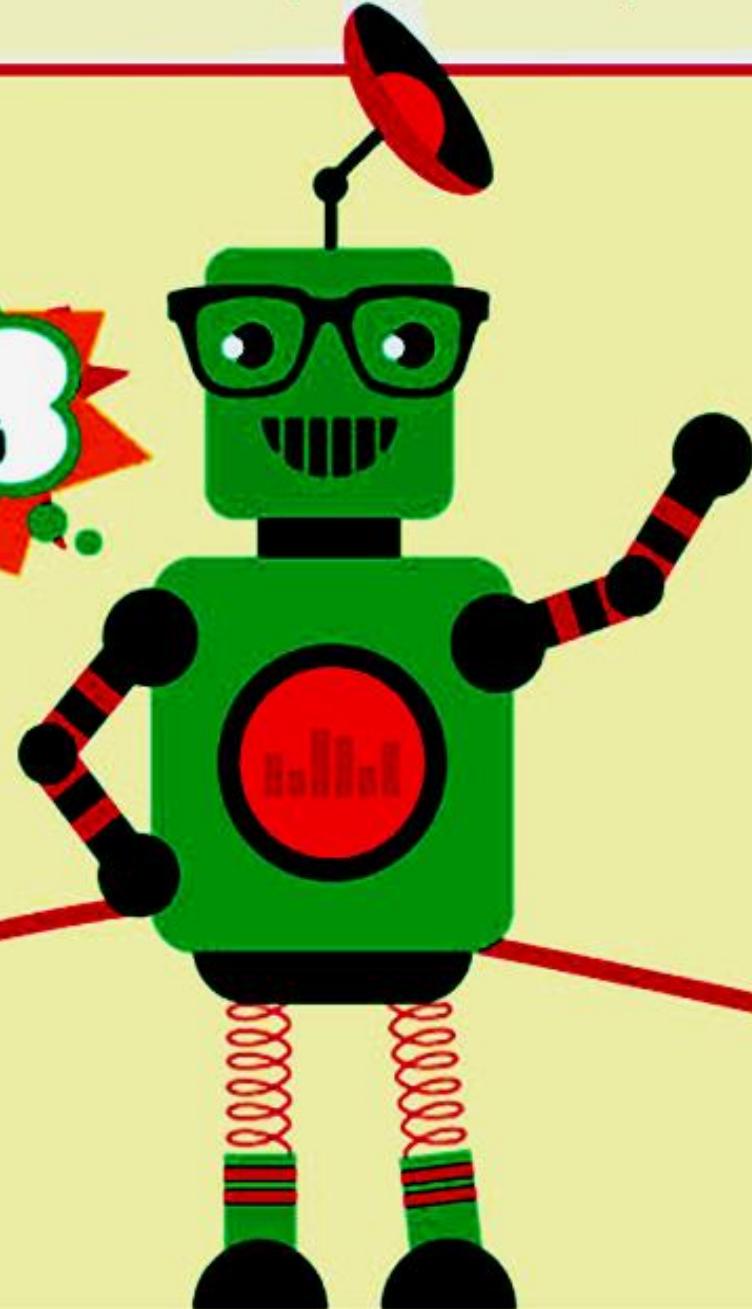
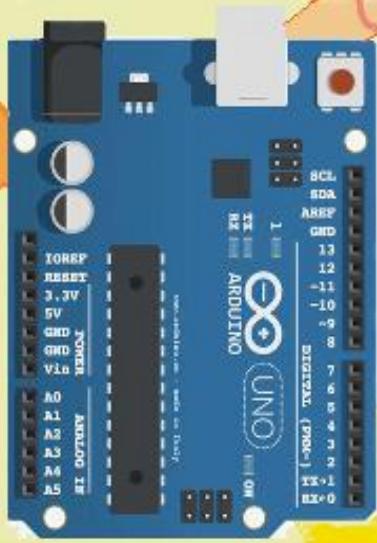


Maker kids

ROBOTICA E CODING TRA I BANCHI DI SCUOLA CON ARDUINO

SCUOLA GIUSTI CLASSI 5° A/B (2017-18)

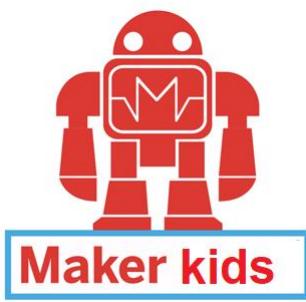


/code

```
pinMode(13, OUTPUT);  
void loop() {  
  digitalWrite(13, HIGH);  
  delay(1000);  
  digitalWrite(13, LOW);  
  delay(1000);  
}
```

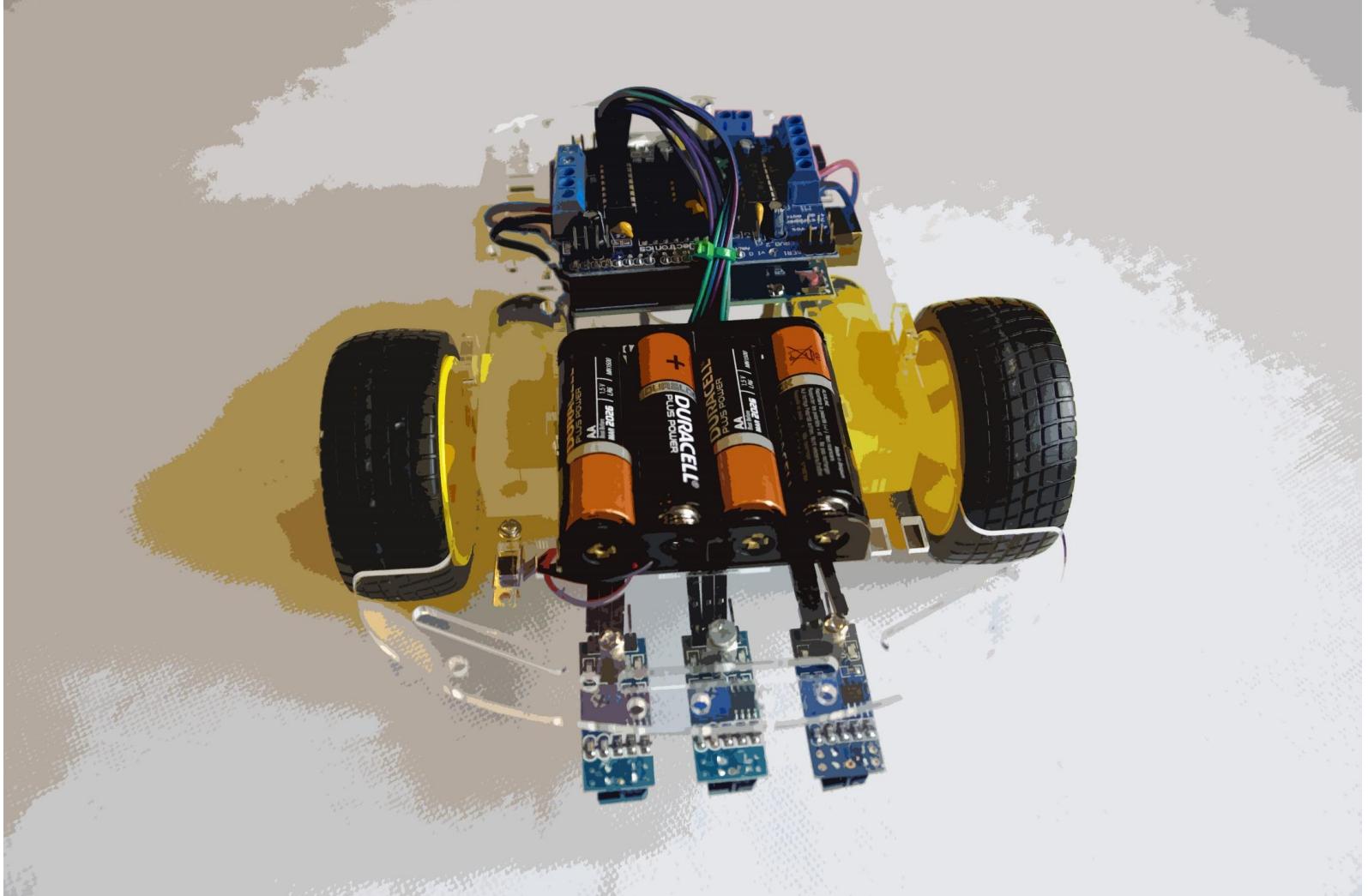
/Ardublock





Robot segugio

Cosa vogliamo fare?

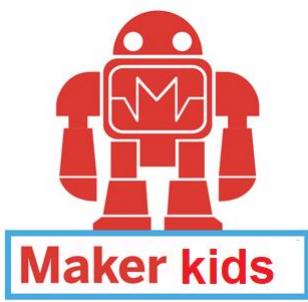


Robot Segugio è una macchina che segue una linea, nel nostro caso sarà una linea nera tracciata sul pavimento con del nastro da elettricista nero.

Il concetto di lavoro del robot inseguitore di linea è legato alla luce, usiamo il comportamento della luce in una superficie bianca e nera.

Quando la luce cade su una superficie bianca viene riflessa a pieno, nel caso invece di superficie nera viene completamente assorbita.

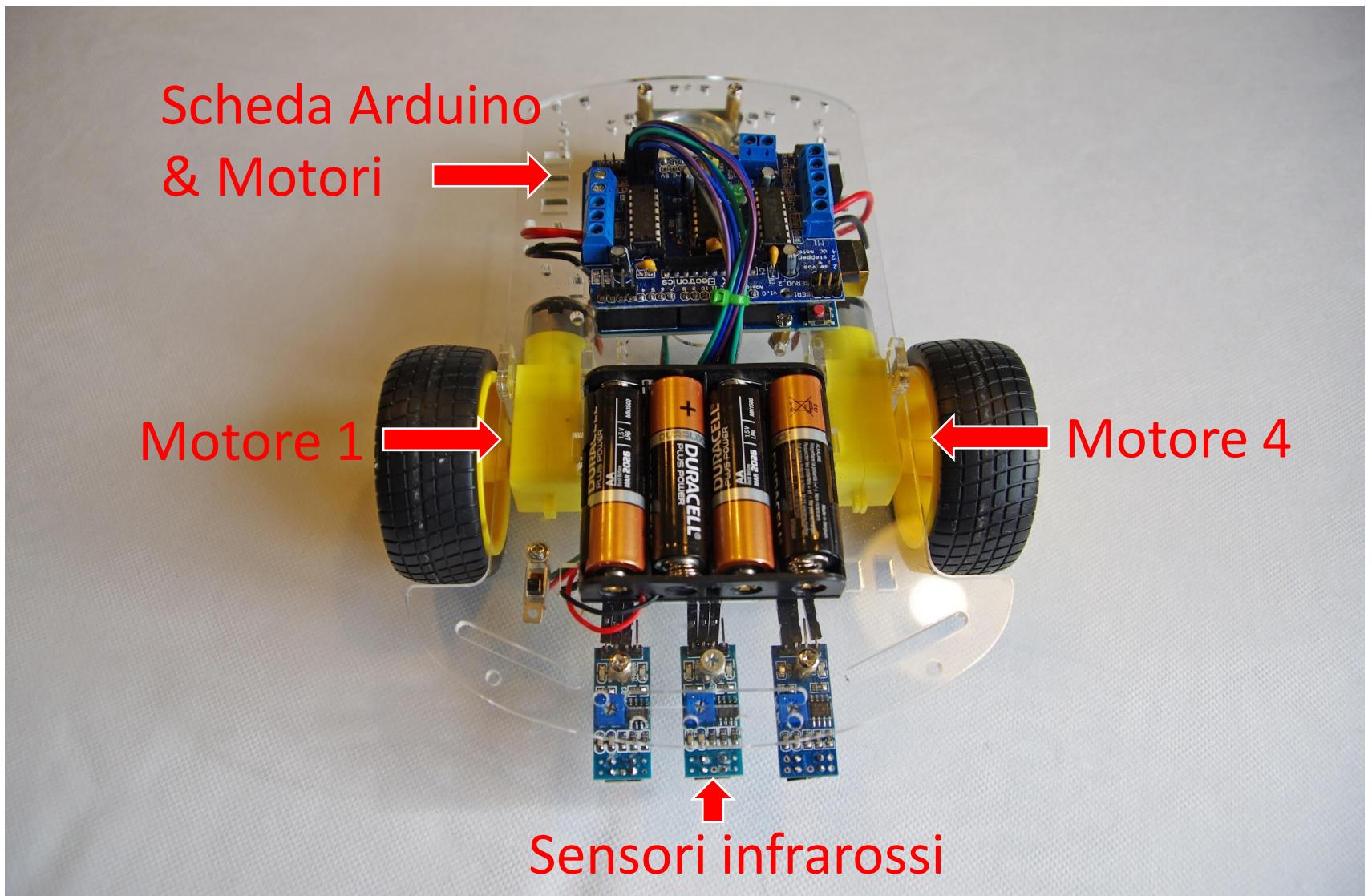
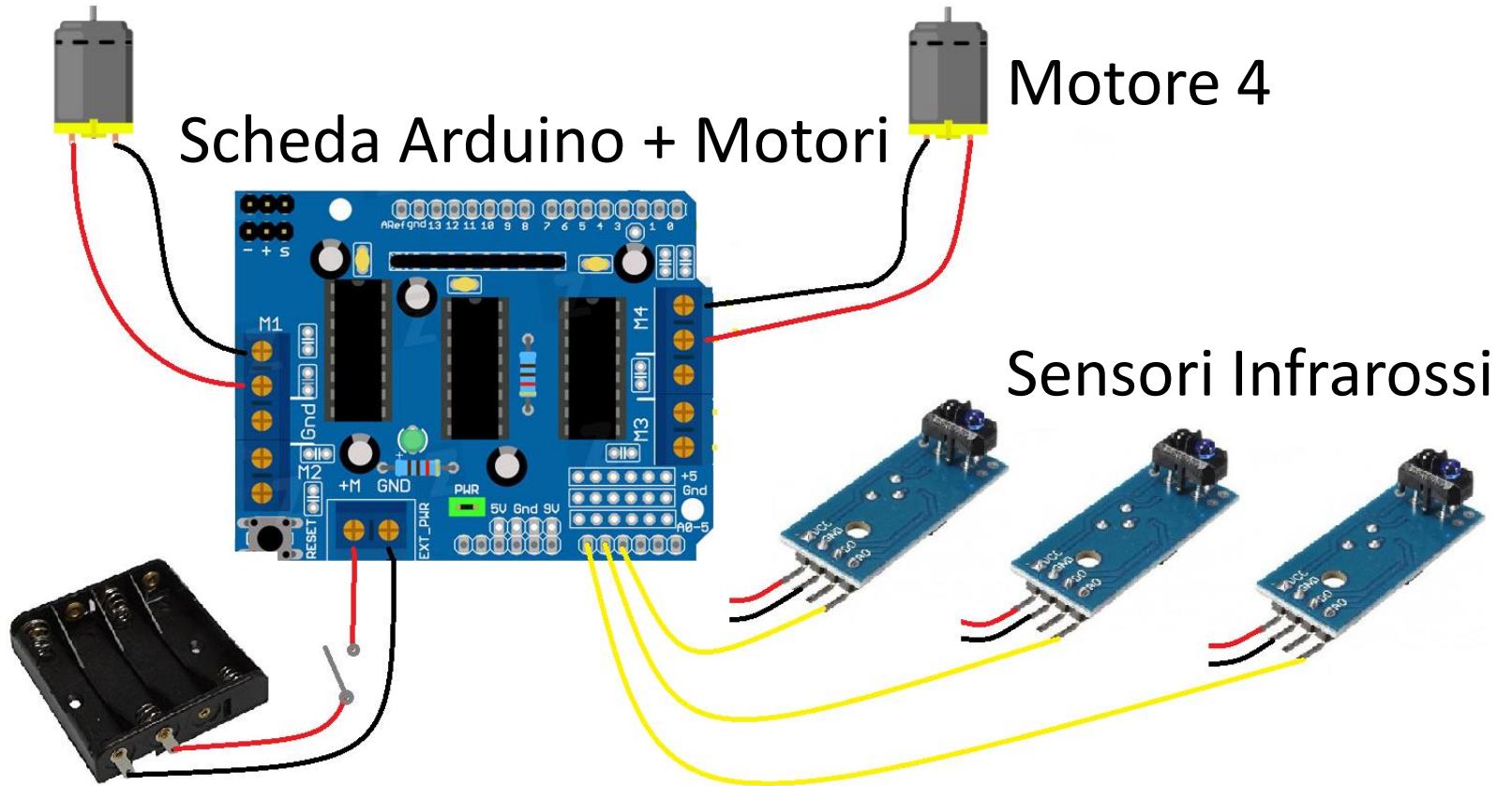
Questo comportamento della luce viene utilizzato per costruire il nostro robot inseguitore di linea utilizzando un sensore infrarosso detto anche sensore inseguitore.

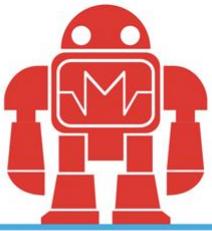


Robot segugio

Che cosa utilizziamo?

Motore 1

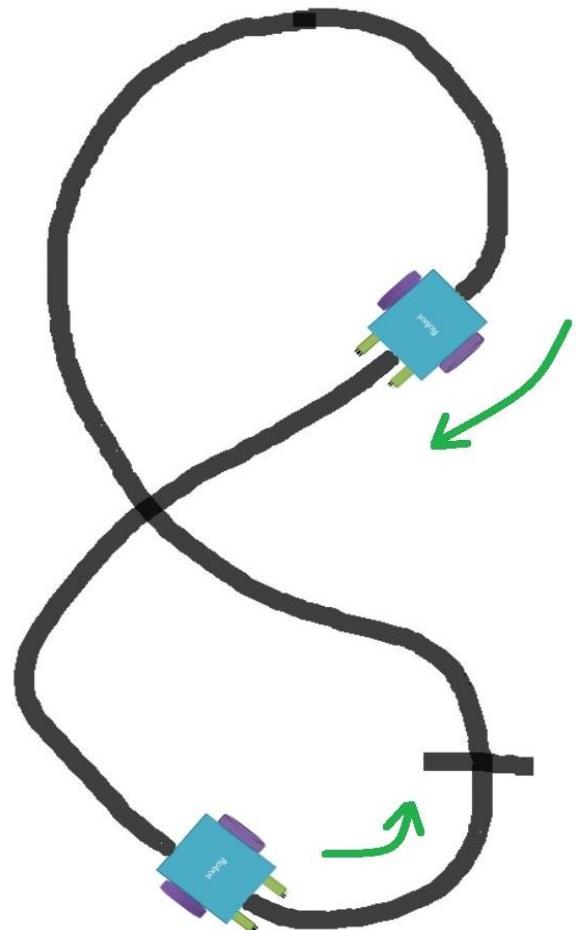
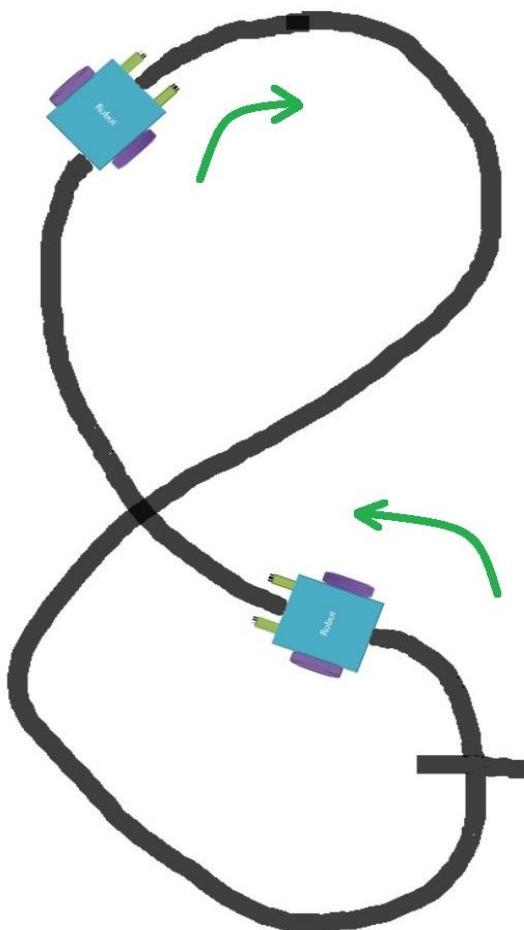
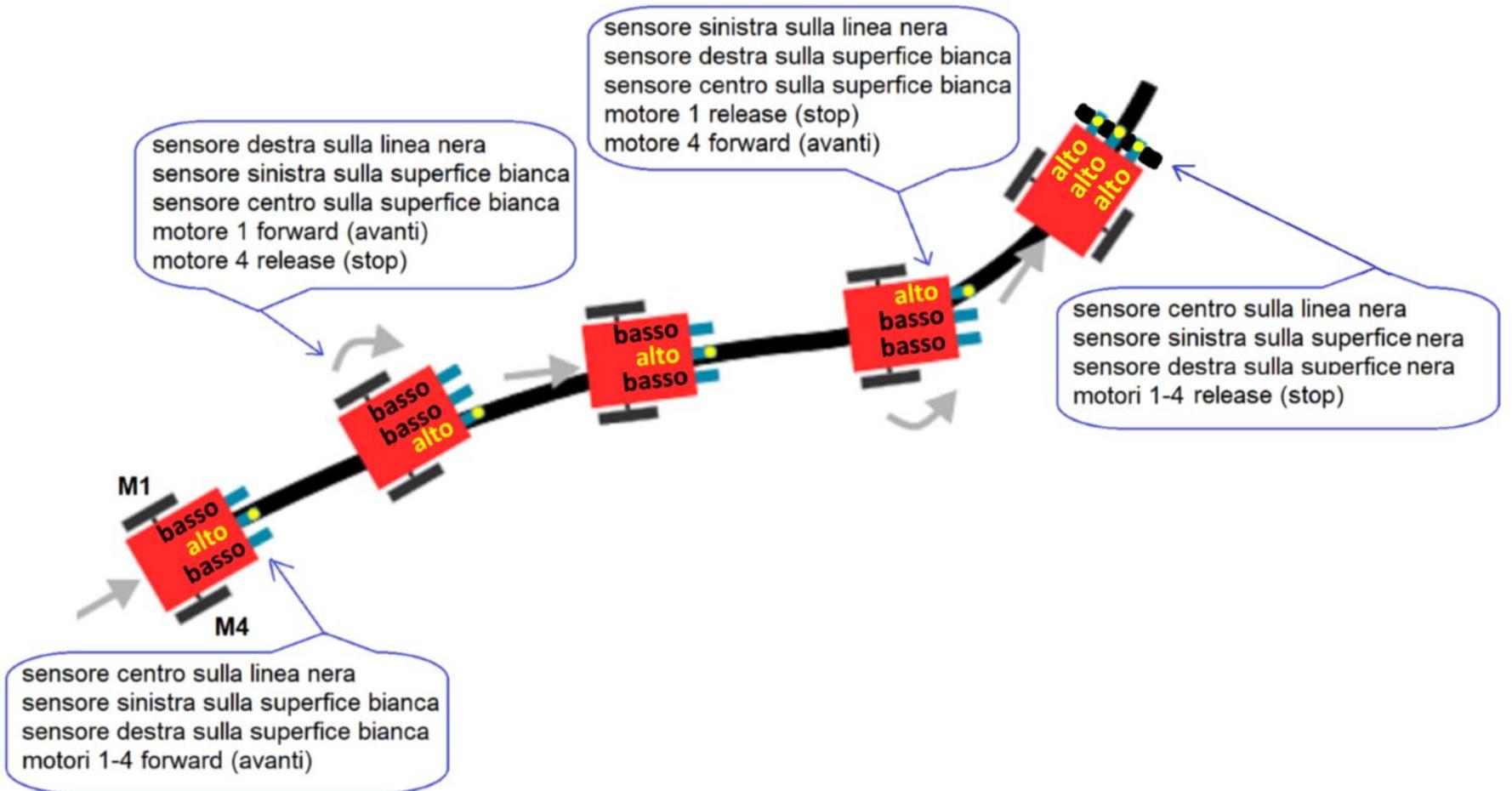


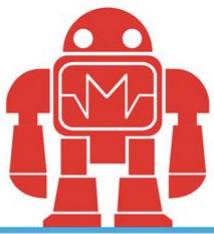


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Robot segugio

Come si muove sul percorso?





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Robot segugio

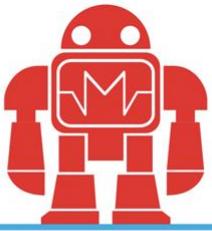
Quale coding usiamo?

Programmazione di Arduino con codice a blocchi

The screenshot shows the ArduBlock software interface for programming an Arduino robot. The main workspace contains a program with the following structure:

- do** loop:
 - set digital variable** block: sets the variable **SensoreSinistra** to the value of **Sensore inseguimento linea** on pin **A0**.
 - set digital variable** block: sets the variable **SensoreDestra** to the value of **Sensore inseguimento linea** on pin **A1**.
 - set digital variable** block: sets the variable **SensoreCentro** to the value of **Sensore inseguimento linea** on pin **A2**.
- Se allora** (if-then) block:
 - prova** (try) block: checks if **SensoreCentro** is **ALTA** and **SensoreDestra** is **BASSO** and **SensoreSinistra** is **BASSO**. This condition is labeled **AVANTI DIRITTO**.
 - Se allora** (if-then) block:
 - Adafruit DC motor FORWARD** block: motor channel 1, motor speed 200.
 - Adafruit DC motor FORWARD** block: motor channel 4, motor speed 250.
- Se allora** (if-then) block:
 - prova** (try) block: checks if **SensoreSinistra** is **ALTA** and **SensoreDestra** is **BASSO** and **SensoreCentro** is **BASSO**. This condition is labeled **GIRARE A DESTRA**.
 - Se allora** (if-then) block:
 - Adafruit DC motor RELEASE** block: motor channel 1, motor speed 0.
 - Adafruit DC motor FORWARD** block: motor channel 4, motor speed 250.
- Se allora** (if-then) block:
 - prova** (try) block: checks if **SensoreDestra** is **ALTA** and **SensoreSinistra** is **BASSO** and **SensoreCentro** is **BASSO**. This condition is labeled **GIRARE A SINISTRA**.

The program is enclosed in a **ciclo** (loop) block. The interface includes a sidebar with various hardware and software categories, and a top menu with options like **New**, **Salva**, **Save As**, **Open**, **Upload to Arduino**, **Serial Monitor**, and **About**.

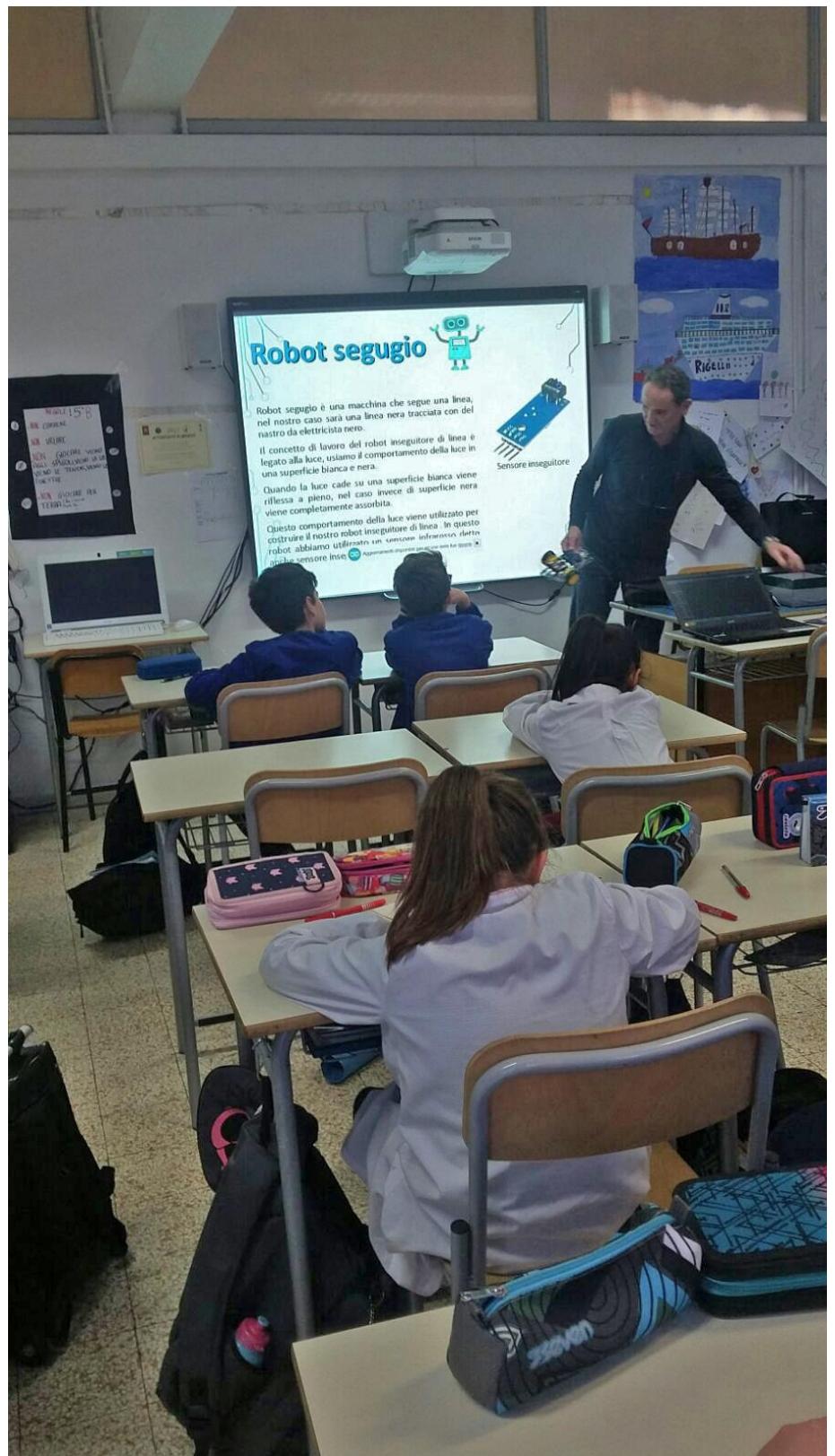


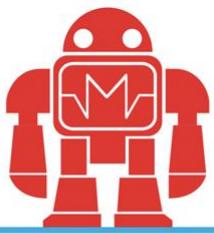
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Robot segugio



Iniziano i laboratori...



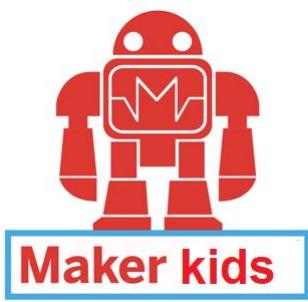


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Robot segugio

Programmiamo...





Robot segugio

Realizziamo il progetto...





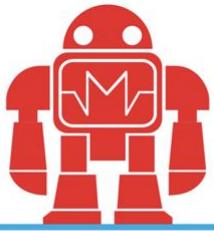
Robot segugio



Il circuito finito...

Il Robot in movimento...





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Robot segugio

Ci divertiamo...

