ROBOTICS
PLANNING
PLANNING

• **Planning** in robotics refers to the algorithms a robot employs to determine its next course of action
  
  • Control flow (e.g., selections) give us the primitive operations for a robot to make a decision
EXAMPLE: DETERMINING IF A ROBOT HITS SOMETHING

• Assume our robot has a "bump" sensor that can detect whether it hits something, i.e., it returns 0 if it is not activated and 1 if it is activated.

• Then the following algorithm might be employed:

```python
if bump == 0:
    robot.forward()
else if bump == 1:
    robot.stop()
```

How can we mimic this with a GoPiGo?
EXERCISE

• Write a program to make a decision about whether a GoPiGo was "hit"
There are many planning algorithms out there, and selections only let us make very primitive decisions.

Any idea on what we are missing?
EXERCISE

• Write a program that detects and avoids light
  • If the light is too bright, have the robot turn around
  • If the light is too dark, have the robot move forward by 1 meter and then detect light again
    • If the light is too bright, turn around and go forward 0.5 meters
    • Otherwise stay put