



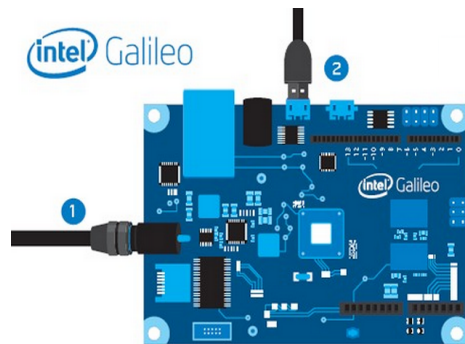
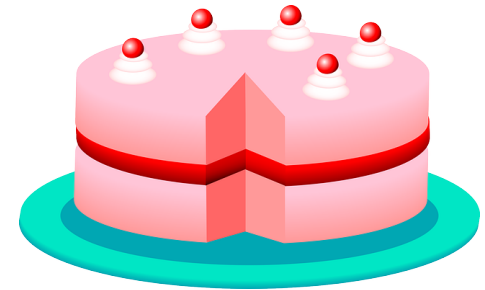
Unlocking Possibilities with Circuits and Code

Intel® Galileo Workshop

Version 2
June 6th, 2014

What does programming mean?

It is like « cooking » with an electronic board! In a kitchen, the chef writes and follows a recipe to make a cake, doesn't he? Well, an engineer does the same, he writes the program (the recipe) so that the computer executes something... but what exactly?



Which language?

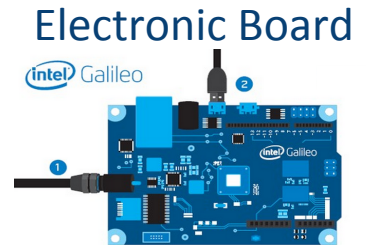
A programming language is a code of communication between human and computer (like the Galileo Board for instance). When coding, the engineer gives instructions to the machine.



human



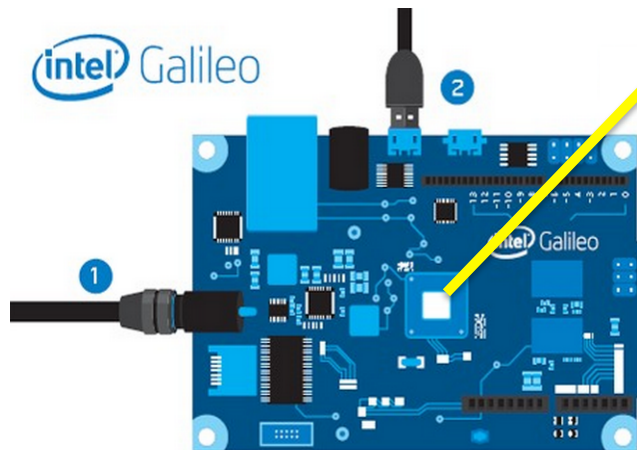
Programming
= code



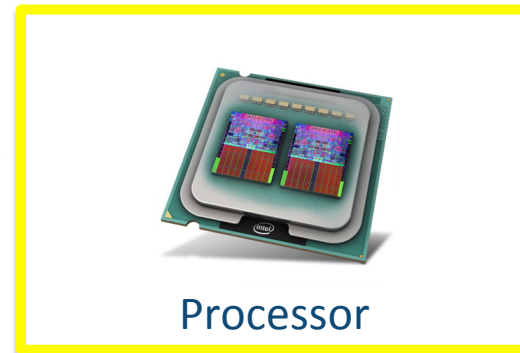
Computer

What is a Galileo board?

A Galileo board is an electronic circuit that controls all the components of a computer. The processor is located on the heart of the board and the memory chip is on its periphery as well as a USB connection.



Circuit board (Galileo)

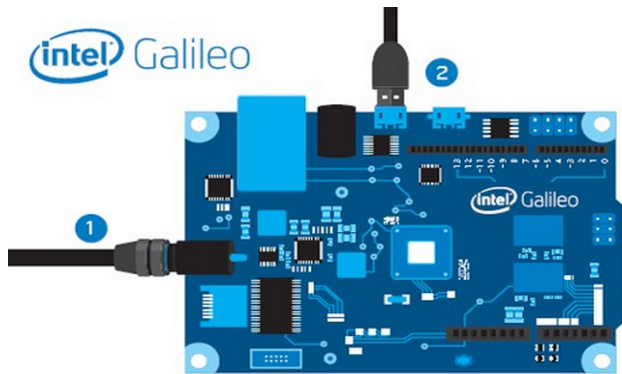


Processor



SD Card (memory)

What could we do with a Galileo board, a Lego head... and some imagination?



Use your brain!

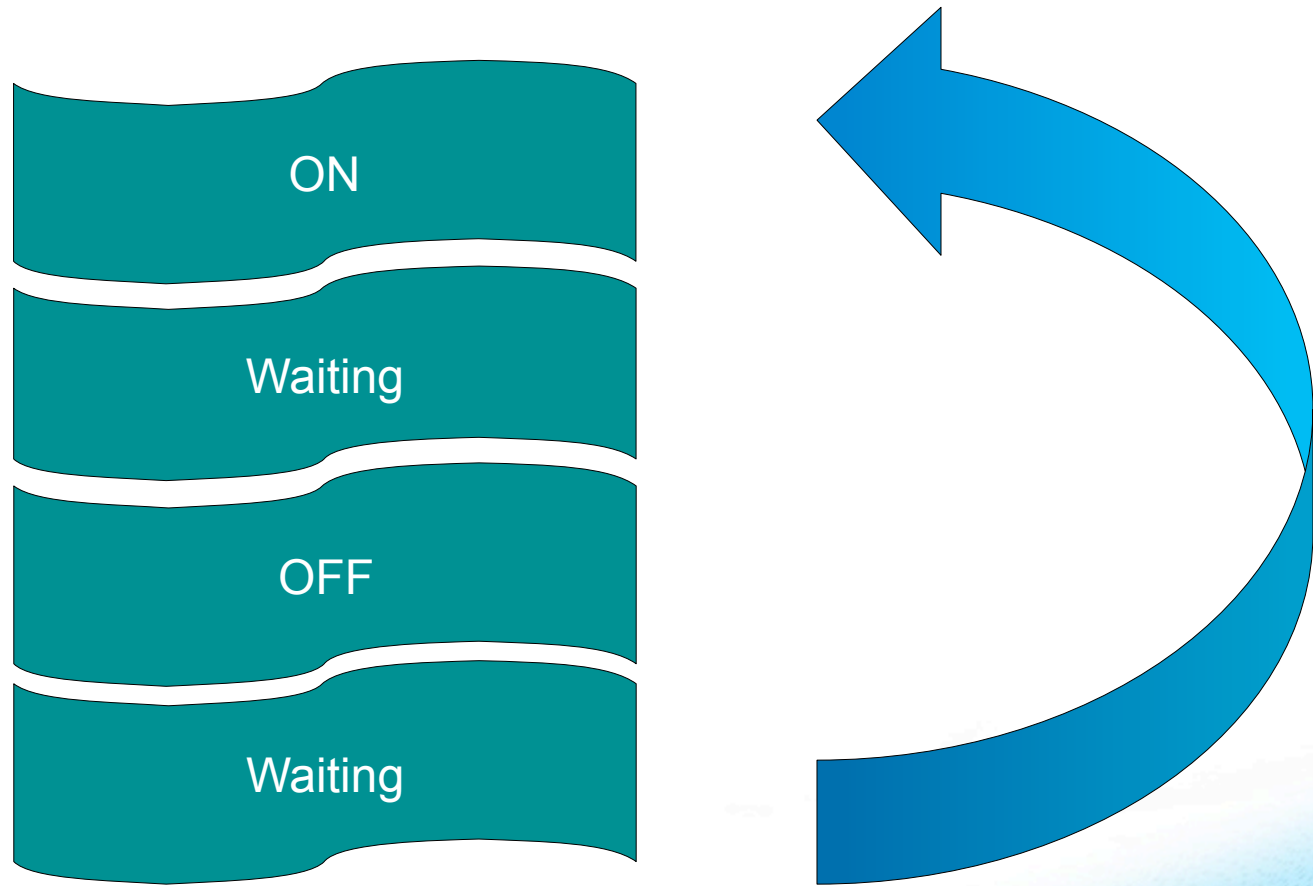
What do you see?



What is happening?


- **A light is “blinking”!**
...What does blinking mean?
- **The different steps of “blinking”:**
 - The light is ON
 - It stays on... for a short period of time
 - And the light is OFF
 - It stays off... for a short period of time
 - And it is starting all over again!

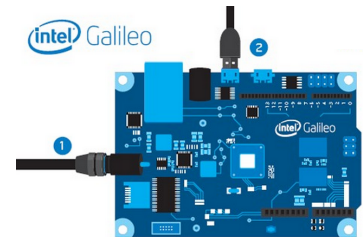
The logical circuit of light!



How can we instruct the Led to turn ON & OFF using codes and a Galileo board?

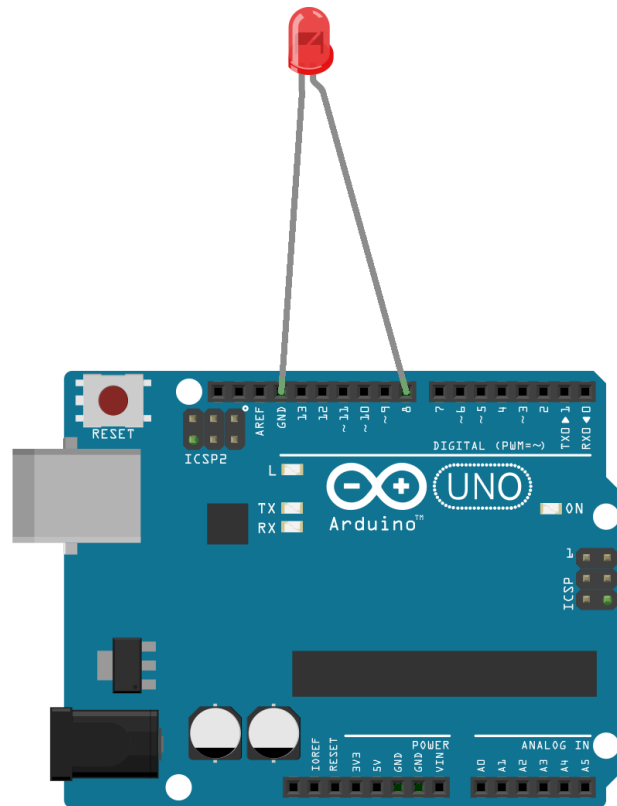


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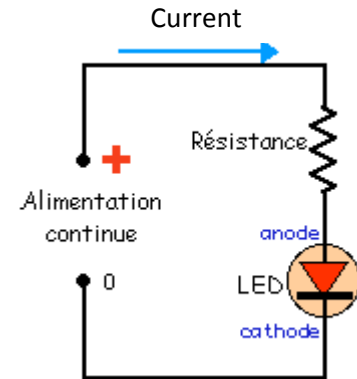


What do we have on the hardware side?

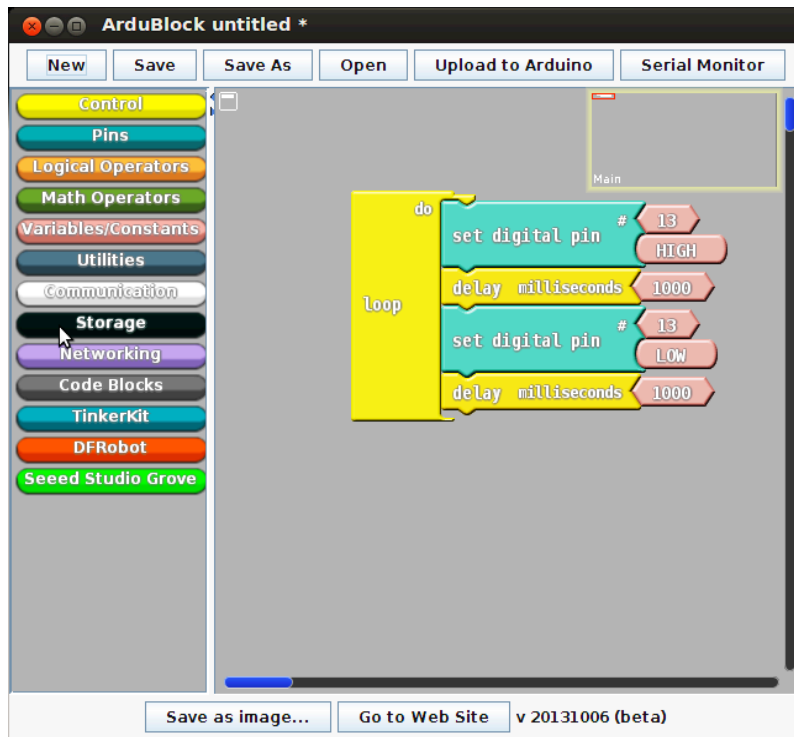
How does a LED work?



Made with  Fritzing.org



Now how do we program on the software side?

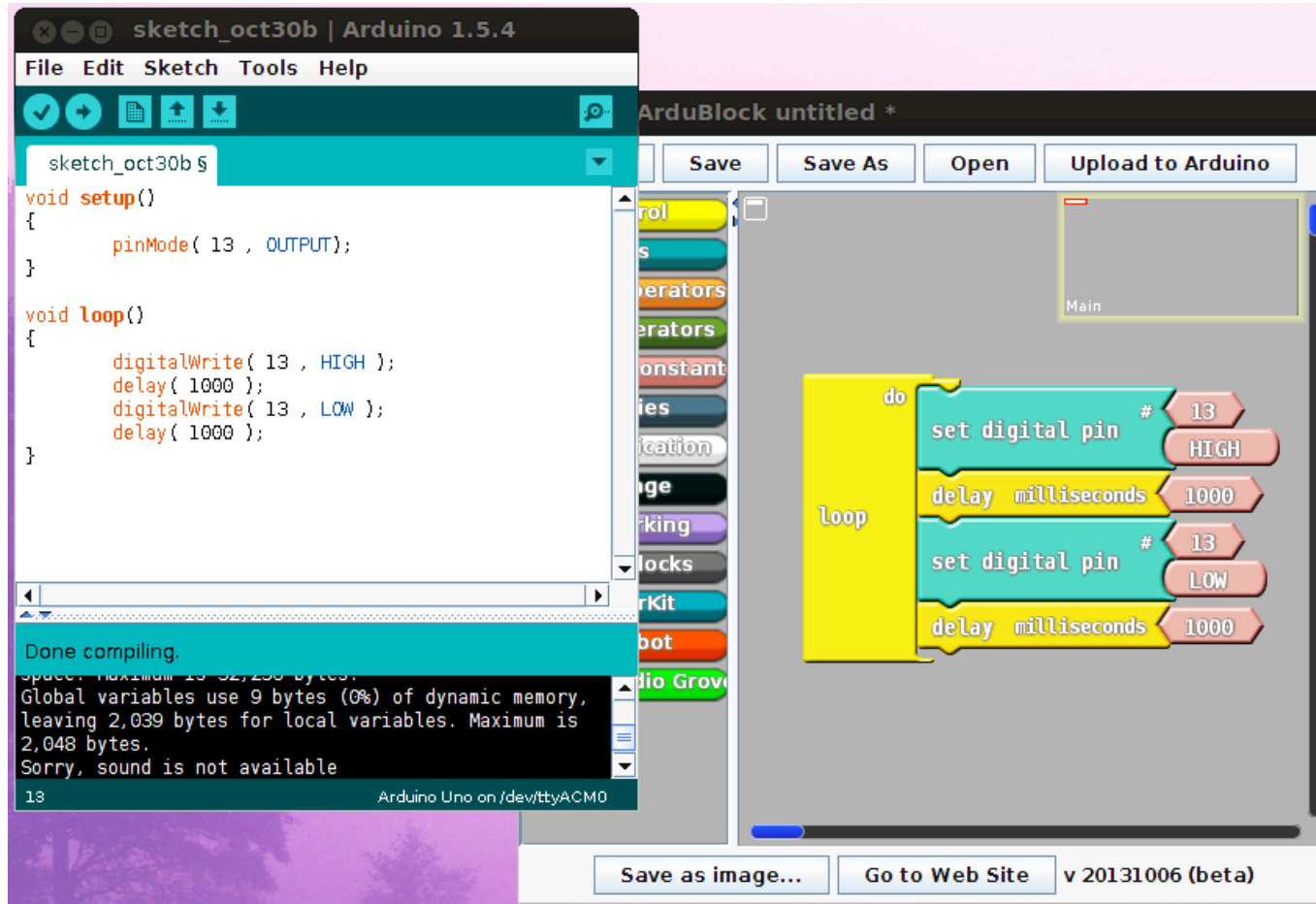


- Led pin 13
- When you change the code you click on:



- Now you can change the waiting time and see what happens!

Now lets try to understand...



Imagine all what you can do?



Now you are capable to turn on one Led, what else would you want to create?

- Add more LEDs
- Alternate the blinking of several LEDs
- Add an ON and OFF button
- Use multicolor LEDs
- Make noise
- Build a robot...



Have fun with your
Galileo and be creative!

