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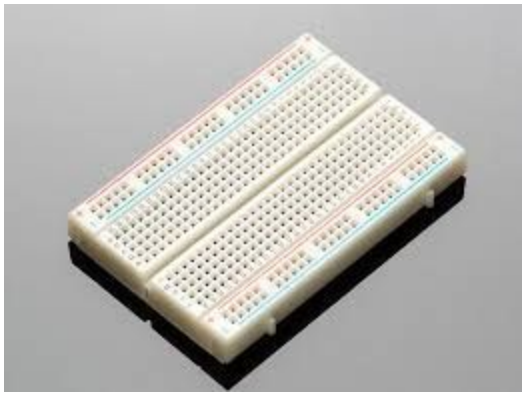
BreadBoard

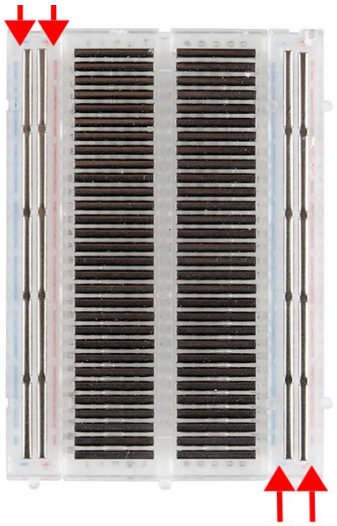


What is a BreadBoard

BreadBoard (solderless) is fundamental piece of electronics workshop besides basic elements of electronics, it is a skill to master. A breadboard looks like one shown in picture. Breadboards are using to prototype circuits, learn and also can be used in production where mechanical interference or vibrations are not present.

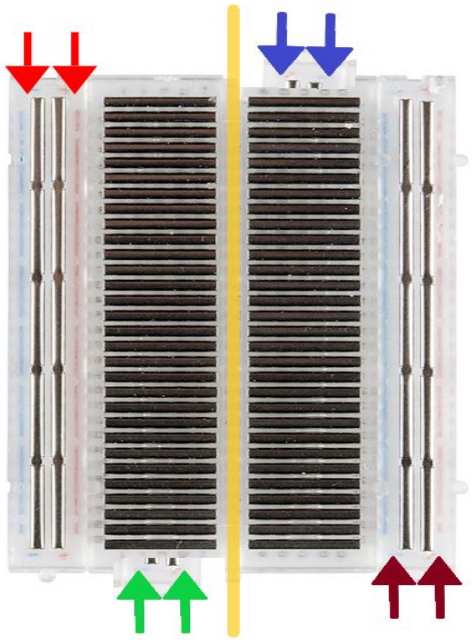
Why are they important to learn?

Soldering is a less desired trade for early learns of electronics , electronics breadboard can replace most of soldering and can help save time, money and resources in prototyping, learning and design.



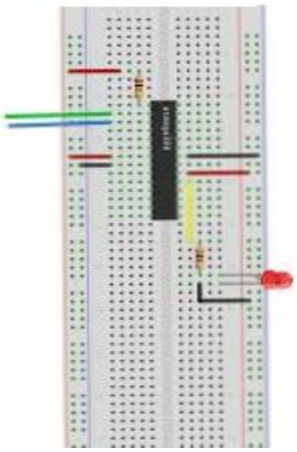
Mechanical Design

Breadboards internally consists of metal strips travelling from top to down for power rails and left to right for component rails.These metal strips are actually made of clips like below image. These clips holds the components or wires that are stick into their respective holes.



Rails

Bread boards have generally 4 rails , left power rail (red arrow),right power rail(dark red arrow), left component rail(green arrow),right component rails(blue arrow). The rails are interconnected as shown. The power strips are connected vertical and component connected horizontal. The yellow line separates left component side from right component side. The ics or DIP chips are placed between left and right component rails over the yellow line.

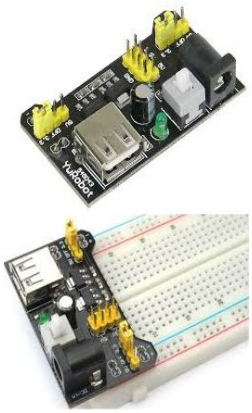


Rows and columns

On some breadboards rows are marked in numbers and columns are marked by letters or vice versa. The markings only serve purpose of making design readable and easy to follow. It also helps to write and follow clear design instructions.

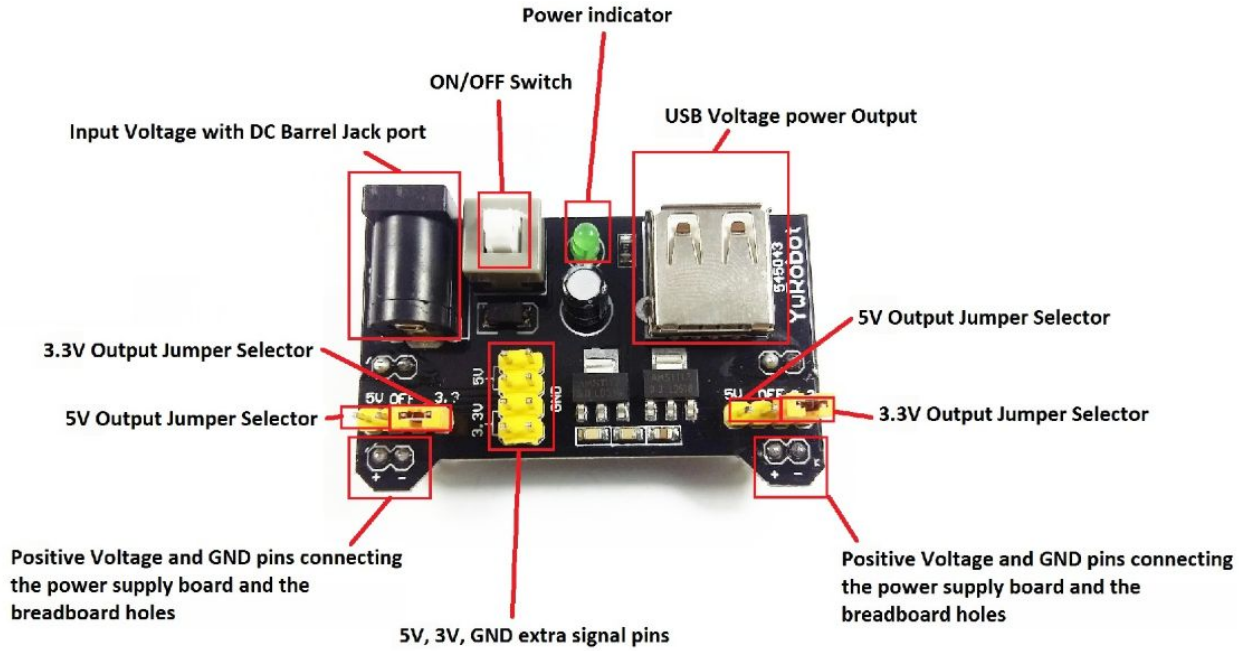
Joining Breadboards

Breadboards have built in mechanism to join multiple breadboards to physically join them.



BreadBoard Power supply

Breadboard power supply is used to power the breadboards. They come with dual power options so left power rail can be supplied with 5 v and right power rails can be supplied with 3.3 volts. They provide a very affordable way to power boards and circuits with batteries and also get an usb power output.


Power indicator
ON/OFF Switch
USB Voltage power Output
Input Voltage with DC Barrel Jack port
5V Output Jumper Selector
3.3V Output Jumper Selector
3.3V Output Jumper Selector
5V Output Jumper Selector
Positive Voltage and GND pins connecting the power supply board and the breadboard holes
5V, 3V, GND extra signal pins
Positive Voltage and GND pins connecting the power supply board and the breadboard holes