

Make your own Himalaya salt crystal lamp from a mobile phone charger



This article shows how a nice Himalaya salt crystal lamp can be made from a few cheap parts and an old phone charger.

Required parts.

- Himalaya salt horse lick stone **with hole going through it**
- old phone charger (5V)
- LM317 voltage regulator
- 100mA LED
- 15 Ohm 1/4W resistor

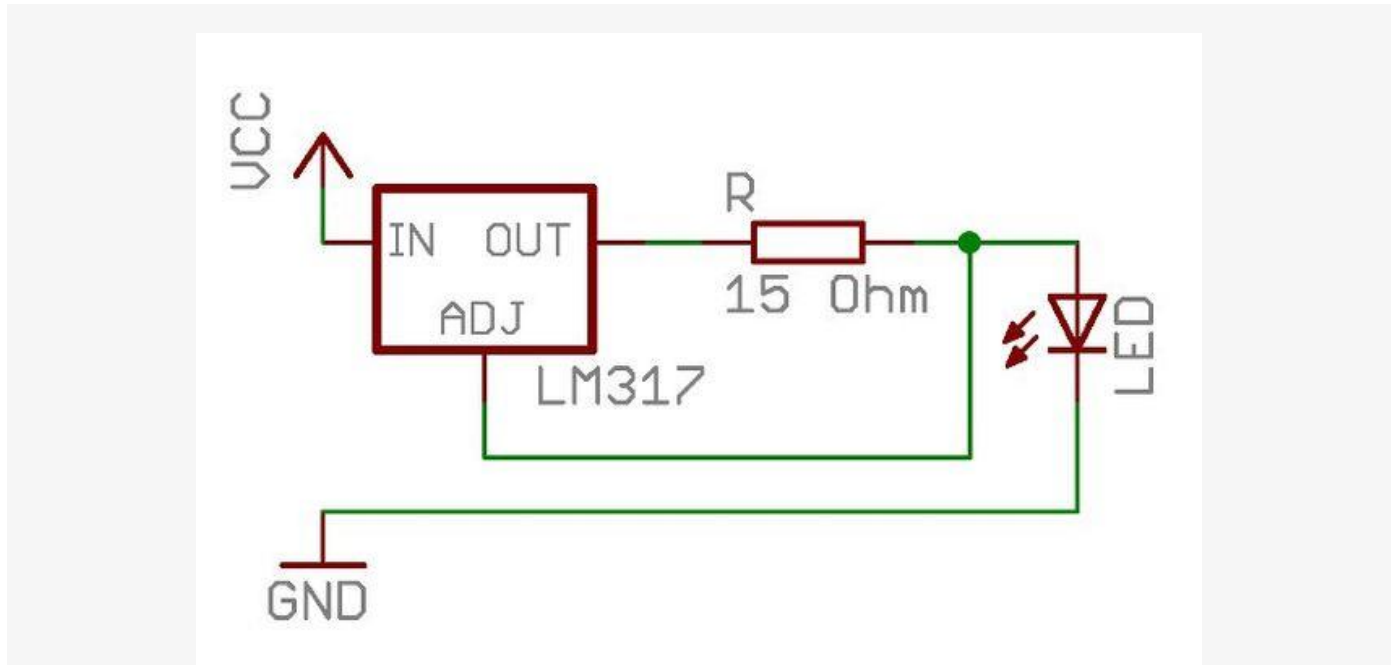


The lick stone can be bought for cheap in horse shops.

As for the phone charger: everybody has one lying around, if not, you know someone who will!

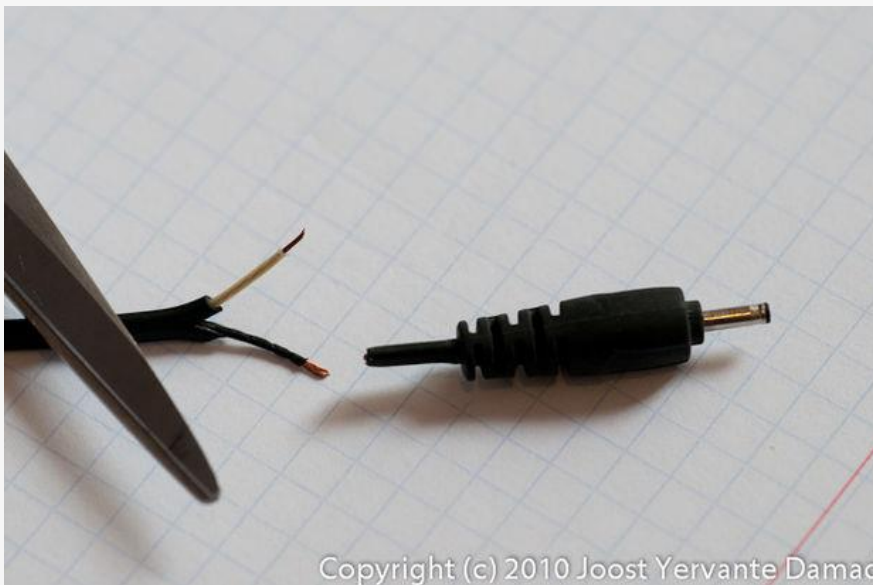
The electronics parts can be bought in any large electronic site online.

Step 2: Schematic



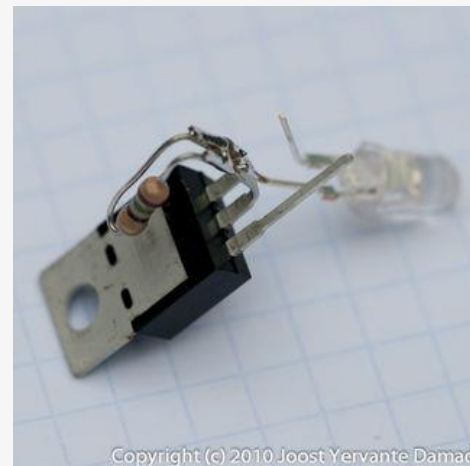
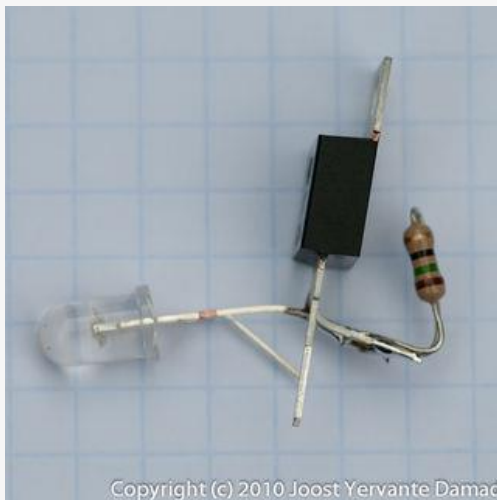
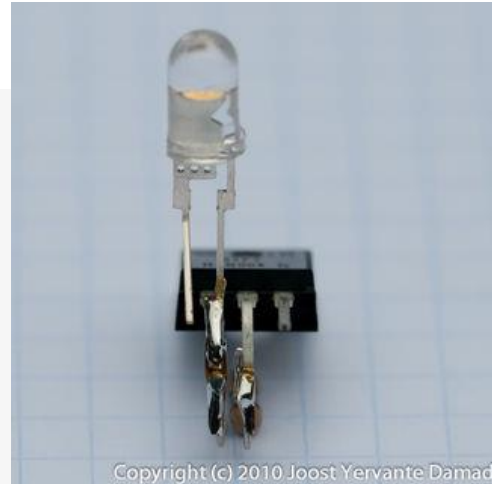
This is the simple schematic. First try to make it on a breadboard.

Step 3: Preparing the charger



Looking at the specifications of the charger more in detail shows it can deliver maximum 350 mA at 5V DC. It should be safe to use it at 100 mA.

Step 4: Soldering



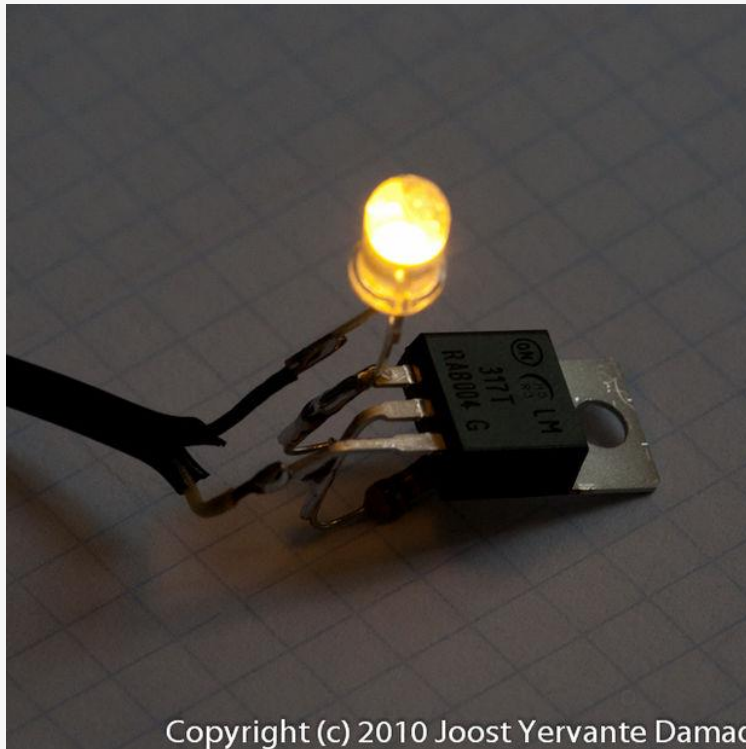
Now it's time for soldering the final shape.

Bend the resistor and solder it on the Adjust and Out pins of the LM317 and solder the LED with its long lead on the Adjust pin.

Bend the leads to get a nice stable shape.

Check the pictures to see how it looks from different angles.

Step 5: Connecting the charger



First you need to know which of the wires on the charger is the VCC (+) and which the GND (-). This can be tested by measuring the Voltage with a multimeter. If the voltage is negative, the Red lead on the multimeter is touching the GND wire, if it is positive it is touching the VCC wire. Alternatively if you have no multimeter, just test by touching the wires on the model like described below, and the correct way will light the LED, the wrong way won't. In our case the black wire turned out to be GND and the white wire VCC.

Don't be surprised if the voltage meter reports more than 5V! Our Nokia charger reported 7V. This is because the charger is not a "stiff" voltage source. It behaves as if a small resistance is in series with its output. When an actual load like our LED is attached the voltage will drop to the expected level.

Solder on the charger wires with VCC on the VCC pin of the LM317 and GND on the short lead of the LED.

Test it by inserting the charger in a power socket.

Step 6: Adding the salt crystal



Place the Himalaya salt crystal with the hole over the LED, and it should provide a nicely illuminated effect, as shown here with a red LED.