*1. CONTEXT FILE FORMAT TABLE*

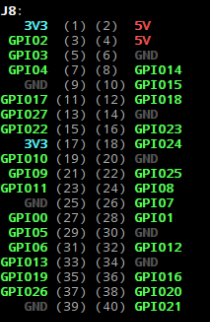
|  |  |  |  |
| --- | --- | --- | --- |
| Node | File name | Component | Pin |
| 1 | Clipper | V2 | 1 |
| 1 | Clipper | R1 | 1 |
| 2 | Clipper | D1 | A |
| 2 | Clipper | R1 | 2 |
| 2 | Clipper | XSC1 | 1 |
| 3 | Clipper | XSC2 | 4 |
| 3 | Clipper | V2 | 2 |
| 3 | Clipper | D1 | K |
| Gnd | Clipper | GND | GND |

2. GPIO Toggling for LED

import RPi.GPIO as GPIO  
import time  
GPIO.setmode(GPIO.BCM)  
GPIO.setwarnings(False)  
GPIO.setup(18,GPIO.OUT)  
print "LED on"  
GPIO.output(18,GPIO.HIGH)  
time.sleep(1)  
print "LED off"  
GPIO.output(18,GPIO.LOW)

|  |  |
| --- | --- |
| import RPi.GPIO as GPIO | The first line tells the Python interpreter (the thing that runs the Python code) that it will be using a ‘library’ that will tell it how to work with the Raspberry Pi’s GPIO pins.  A ‘library’ gives a programming language extra commands that can be used to do something different that it previously did not know how to do.  This is like adding a new channel to your TV so you can watch something different. |
| import time | Imports the Time library so that we can pause the script later on. |
| GPIO.setmode(GPIO.BCM) | Each pin on the Raspberry Pi has several different names, so you need to tell the program which naming convention is to be used. |
| GPIO.setwarnings(False) | This tells Python not to print GPIO warning messages to the screen. |
| GPIO.setup(18,GPIO.OUT) | This line tells the Python interpreter that pin 18 is going to be used for outputting information, which means you are going to be able to turn the pin ‘on’ and ‘off’. |
| print "LED on" | This line prints some information to the terminal. |
| GPIO.output(18,GPIO.HIGH) | This turns the GPIO pin ‘on’. What this actually means is that the pin is made to provide power of 3.3volts.  This is enough to turn the LED in our circuit on. |
| time.sleep(1) | Pauses the Python program for 1 second |
| print "LED off" | This line prints some information to the terminal. |
| GPIO.output(18,GPIO.LOW) |  |

3. GPIO pins

  
 Fig: GPIO pins

