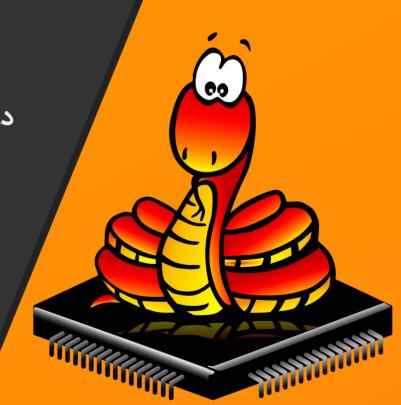
آموزش میکروپایتون برای برنامه نویسے برد ESP32 و ESP8266

درس هشتم: آشنایی با GPIO و پروژه چشمک زدن LED

مدرس: مصطفی آصفی info@asefy.com

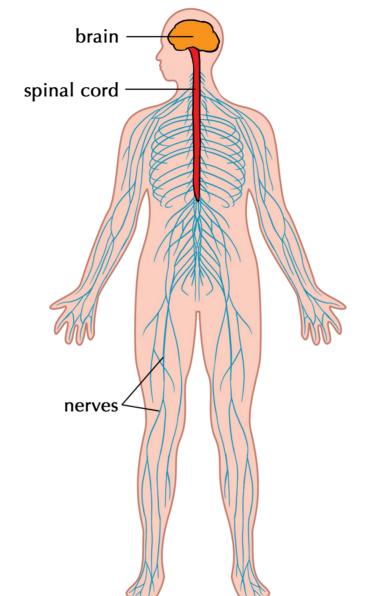






General Purpose Input/Output

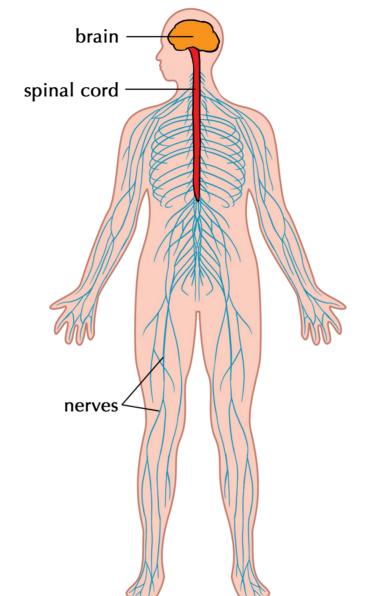




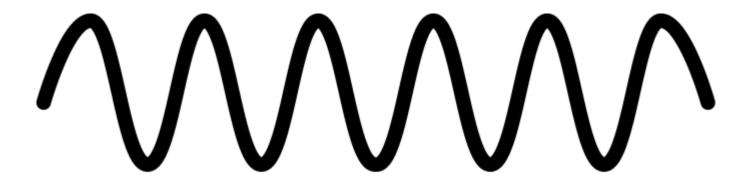


Lolin32 Lite pinout Power GND Serial Pin Analog Pin Control LED BUILT IN Physical Pin Port Pin Touch Pin RTCIO O SensVP ADC H ADCI O GPI 36* 5- VP DAC Pin RTCIO 3 SensVN ADC H ADCI 3 GPI 39* 8-LEDBUILTIN VSPIWP | UORTS | EMACTXD1 | WIRE SCL -\- PWM Pin CHIP PU 19 -\-38 GPI019 VSPI O UOCTS EMACTXDO SPI MISO ADC1 6 GPI 34* 10- 34* 34* 23 €√-36 GPI023 RTCIO 4 VDET 1 HS1STR VSPI D SPI MOSI RTCIO 5 ADC1 7 GPI 35* 11-0 35* 35 18 -1-35 GPI018 HS1 D7 VSPICLK SPI SCK Xtal32P Touch 9 ADC1 4 GPI032 121 -1-34 GPIO 5 HS1 D6 VSPICSO EMACRXCLK SPI SS FLASH Xtal32N Touch 8 ADC1 5 GPIO33 134 33 €-√-27 GPI017 HS1 D5 U2TXD EMAC CO180 EMAC RXDO ADC2 8 GPIO 25 14 10 25 €√-25 GPI016 U2RXD EMAC CLKOUT RTCIO 6 HS1 D4 EMACTXER RTCIO10 ADC2 9 GPIO26 15/\ 26 ●√-24 GPIO 4 ADC2 0 Touch 0 HS2 D1 HSPIHD SD D1 FMACRXD1 RTCIO 7 Touch 7 ADC2 7 GPIO27 16 \ 27 0 -V-23 GPIO 0 ADC2 1 Touch 1 CLK 01 EMACTXCLK RTCIO11 FMAC RXDV RTCIO17 2 GPIO 2 ADC2 2 Touch 2 HS2 DO HSPIWP SD DO SD CLK HS2CLK EMACTXD2 HSPICLK RTCIO16 MT MS Touch 6 ADC2 6 GPIO14 17/0 14 RTCIO12 SD D2 HS2D2 EMACTXD3 HSPI Q RTCIO15 MT DI Touch 5 ADC2 5 GPIO12 18/ 12 15 -V-21 GPIO15 ADC2 3 Touch 3 HS2CMD HSPICSO SDCMD EMACRXD3 RTCIO13 MT DO 13 -\-\-20 GPIO13 ADC2 4 GND -HS2 D3 HSPI D SD D3 EMACRXD3 RTCIO 4 MT CK LED CHARGING -BAT EN USB

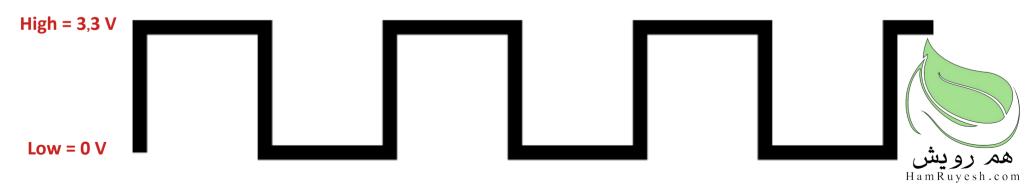
Ham Ruyesh.com







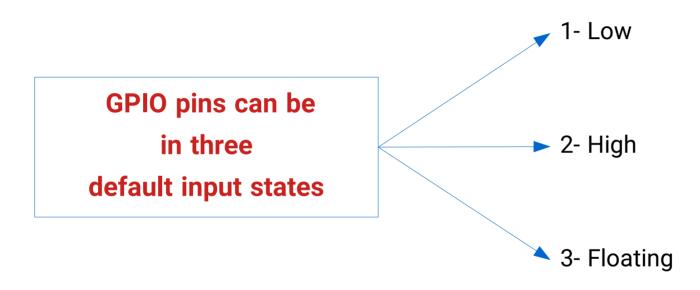
Analog Signal



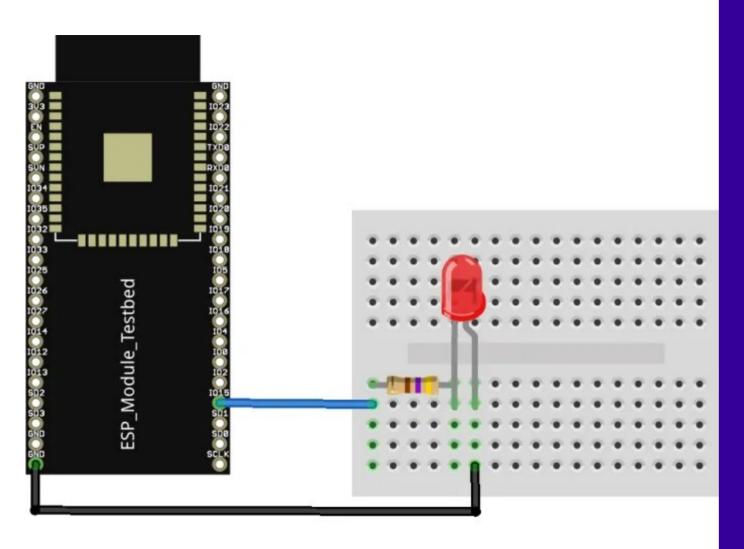
Digital Signal

Lolin32 Lite pinout Power GND Serial Pin Analog Pin Control LED BUILT IN Physical Pin Port Pin Touch Pin RTCIO O SensVP ADC H ADCI O GPI 36* 5- VP DAC Pin RTCIO 3 SensVN ADC H ADCI 3 GPI 39* 8-LEDBUILTIN VSPIWP | UORTS | EMACTXD1 | WIRE SCL -\- PWM Pin CHIP PU 19 -\-38 GPI019 VSPI O UOCTS EMACTXDO SPI MISO ADC1 6 GPI 34* 10- 34* 34* 23 €√-36 GPI023 RTCIO 4 VDET 1 HS1STR VSPI D SPI MOSI RTCIO 5 ADC1 7 GPI 35* 11-0 35* 35 18 -1-35 GPI018 HS1 D7 VSPICLK SPI SCK Xtal32P Touch 9 ADC1 4 GPI032 121 -1-34 GPIO 5 HS1 D6 VSPICSO EMACRXCLK SPI SS FLASH Xtal32N Touch 8 ADC1 5 GPIO33 134 33 €-√-27 GPI017 HS1 D5 U2TXD EMAC CO180 EMAC RXDO ADC2 8 GPIO 25 14 10 25 €√-25 GPI016 U2RXD EMAC CLKOUT RTCIO 6 HS1 D4 EMACTXER RTCIO10 ADC2 9 GPIO26 15/\ 26 ●√-24 GPIO 4 ADC2 0 Touch 0 HS2 D1 HSPIHD SD D1 FMACRXD1 RTCIO 7 Touch 7 ADC2 7 GPIO27 16 \ 27 0 -V-23 GPIO 0 ADC2 1 Touch 1 CLK 01 EMACTXCLK RTCIO11 FMAC RXDV RTCIO17 2 GPIO 2 ADC2 2 Touch 2 HS2 DO HSPIWP SD DO SD CLK HS2CLK EMACTXD2 HSPICLK RTCIO16 MT MS Touch 6 ADC2 6 GPIO14 17/0 14 RTCIO12 SD D2 HS2D2 EMACTXD3 HSPI Q RTCIO15 MT DI Touch 5 ADC2 5 GPIO12 18/ 12 15 -V-21 GPIO15 ADC2 3 Touch 3 HS2CMD HSPICSO SDCMD EMACRXD3 RTCIO13 MT DO 13 -\-\-20 GPIO13 ADC2 4 GND -HS2 D3 HSPI D SD D3 EMACRXD3 RTCIO 4 MT CK LED CHARGING -BAT EN USB

Ham Ruyesh.com



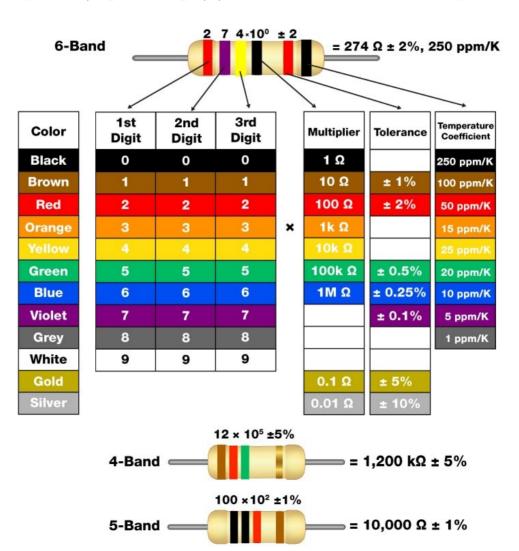




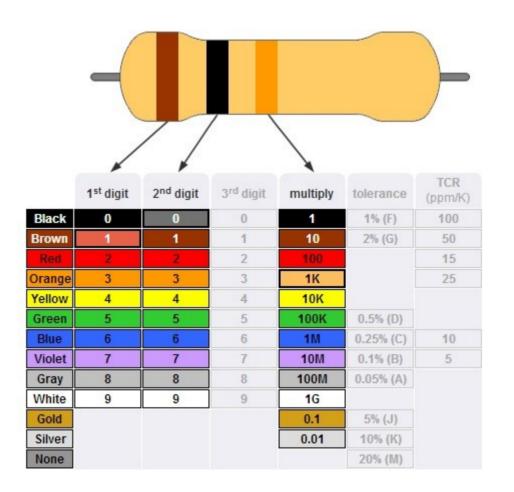
دیاگرام مدار Circuit Diagram



خواندن مشخصات مقاومتها از روی کدهای رنگی آنها

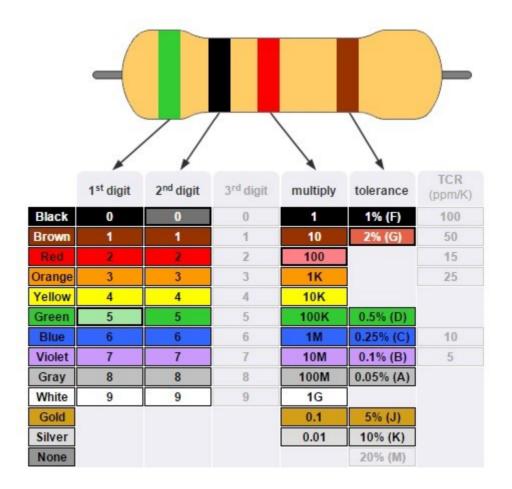


مقاومتهای 3 و 4 خطی

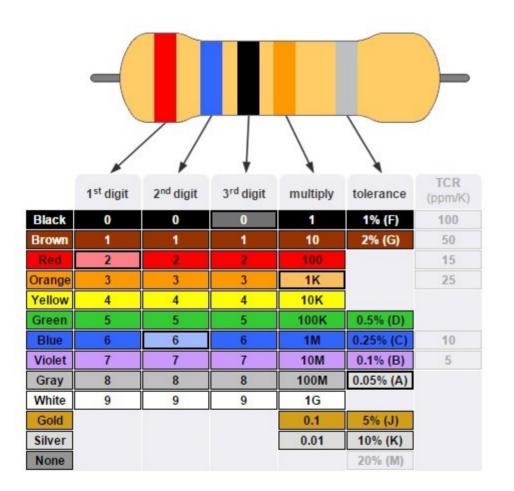




مقاومتهای 3 و 4 خطی

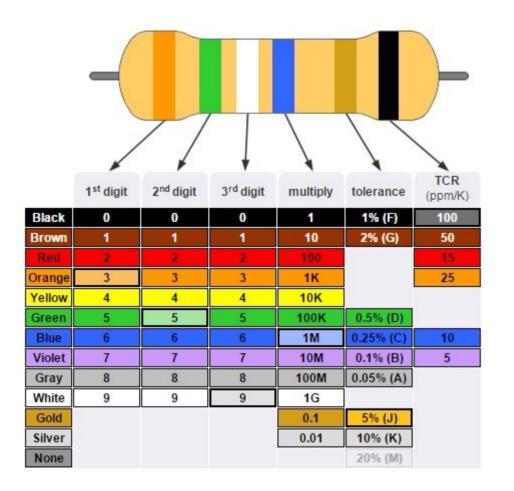






مقاومتهای 5 و 6 خطی

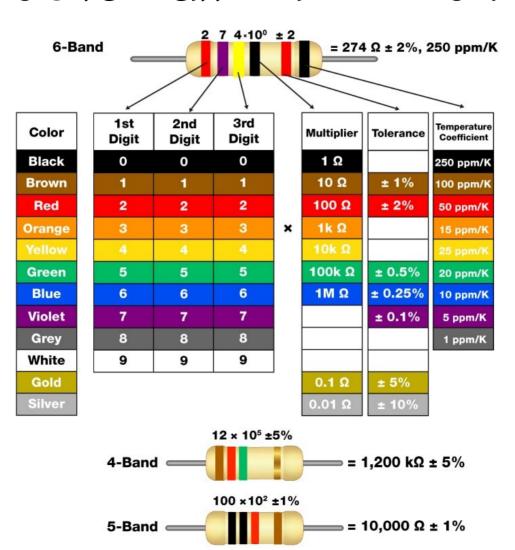




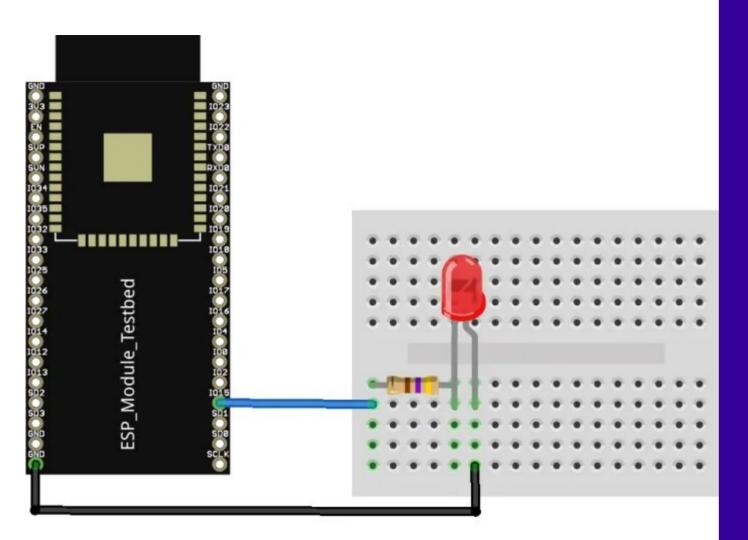
مقاومتهای 5 و 6 خطی



خواندن مشخصات مقاومتها از روی کدهای رنگی آنها









دیاگرام مدار Circuit Diagram