









MICROCONTROLLER PINS

CHEAT SHEET

Pin Type		Label(s)	Function
VCC / 3.3V / 5V		VCC, 3V3, 5V	Power supply for components
GND		GND	Ground connection (return path for current)
GPIO		D0–D13, A0–A5 (Arduino)	General digital input/output
PWM		~D3, ~D5, etc.	Pulse Width Modulation (e.g., LED dimming, motor speed)
ADC		A0–A5	Analog input pins for sensors
UART		TX, RX	Serial communication (e.g., with ESP8266, GPS modules)
I2C		SDA, SCL	Two-wire serial communication for sensors, EEPROMs, etc.
SPI		MOSI, MISO, SCK, SS (CS)	High-speed communication with displays, memory, etc.