Standard Embedded C Libraries for AVR (AVR-libc)

These libraries are provided by Atmel/Microchip as part of the avr-libc package and are used for bare-metal programming of AVR microcontrollers (e.g., ATmega328P, ATmega32).

# Core Standard Headers

* <avr/io.h> – Device-specific register definitions and I/O access.
* <avr/interrupt.h> – Interrupt vector names and control macros (e.g., sei(), cli()).
* <avr/eeprom.h> – Functions for reading and writing to EEPROM memory.
* <avr/pgmspace.h> – Macros to store and access constants in Flash (program memory).
* <avr/sleep.h> – Sleep mode configuration for power saving.
* <avr/wdt.h> – Watchdog Timer control.
* <util/delay.h> – Simple software delay functions (\_delay\_ms, \_delay\_us).

# Additional Useful Headers

* <util/twi.h> – Low-level TWI (I2C) master/slave definitions.
* <util/setbaud.h> – Baud rate calculation helper macros for UART.
* <avr/fuse.h> – Defines fuse bits used when programming the microcontroller.
* <avr/lock.h> – Access and define lock bits.
* <avr/signature.h> – Provides device signature bytes.
* <avr/power.h> – Control peripheral power (clock gating).
* <avr/version.h> – avr-libc version macros.

These headers allow for low-level, efficient, and portable embedded programming on AVR chips, especially when used with the avr-gcc compiler.