SINCHANA R
BU22EECE0100441

HANDS ON ACTIVITY :
EMBEDDED SYSYTEM COMPARISON 8051 AND AUDRINO

Feature	8051 Micro-controller	Arduino
Architecture	Harvard	Modified Harvard
Instruction Set	8-bit	8-bit (AVR) or 32-bit (ARM)
Clock Speed	Typically up to 12 MHz	8 MHz (Uno), 16 MHz (Mega), varies with different boards
Memory	ROM, RAM, EEPROM	Flash, SRAM, EEPROM
GPIO Pins	Limited	Abundant, typically 20 or more
Analog Inputs	Usually limited	Typically multiple, 6 or more
Digital I/O	Limited	Abundant
Development Tools	Limited availability	Extensive community support, IDE like Arduino IDE
Programming	Assembly, C	Arduino Sketch (C/C++)
IDE Support	Limited	Arduino IDE, PlatformIO
Debugging	Limited	Limited (Serial debugging, LED blinking)
Cost	Affordable	Affordable

To summarize:

The 8051 micro-controller is a classic 8-bit micro-controller known for its simplicity and robustness. It's widely used in embedded systems, particularly in industrial applications.

Arduino, on the other hand, is a popular open-source hardware and software platform that simplifies the process of creating electronics projects. It typically uses AVR or ARM-based micro-controllers and offers a user-friendly environment for programming and prototyping.