



Code: **PSEMBP 99** Category: **STEM** Level: **High School/Community C.**

*At the end of this project you should be able to write 'C' Language code for LED blinking for the Zilog Encore processor XP8F042A. Upon a switch is pressed, the LED blinking sequence would change. You should be able to change the variables, rebuild the project to see different output.*

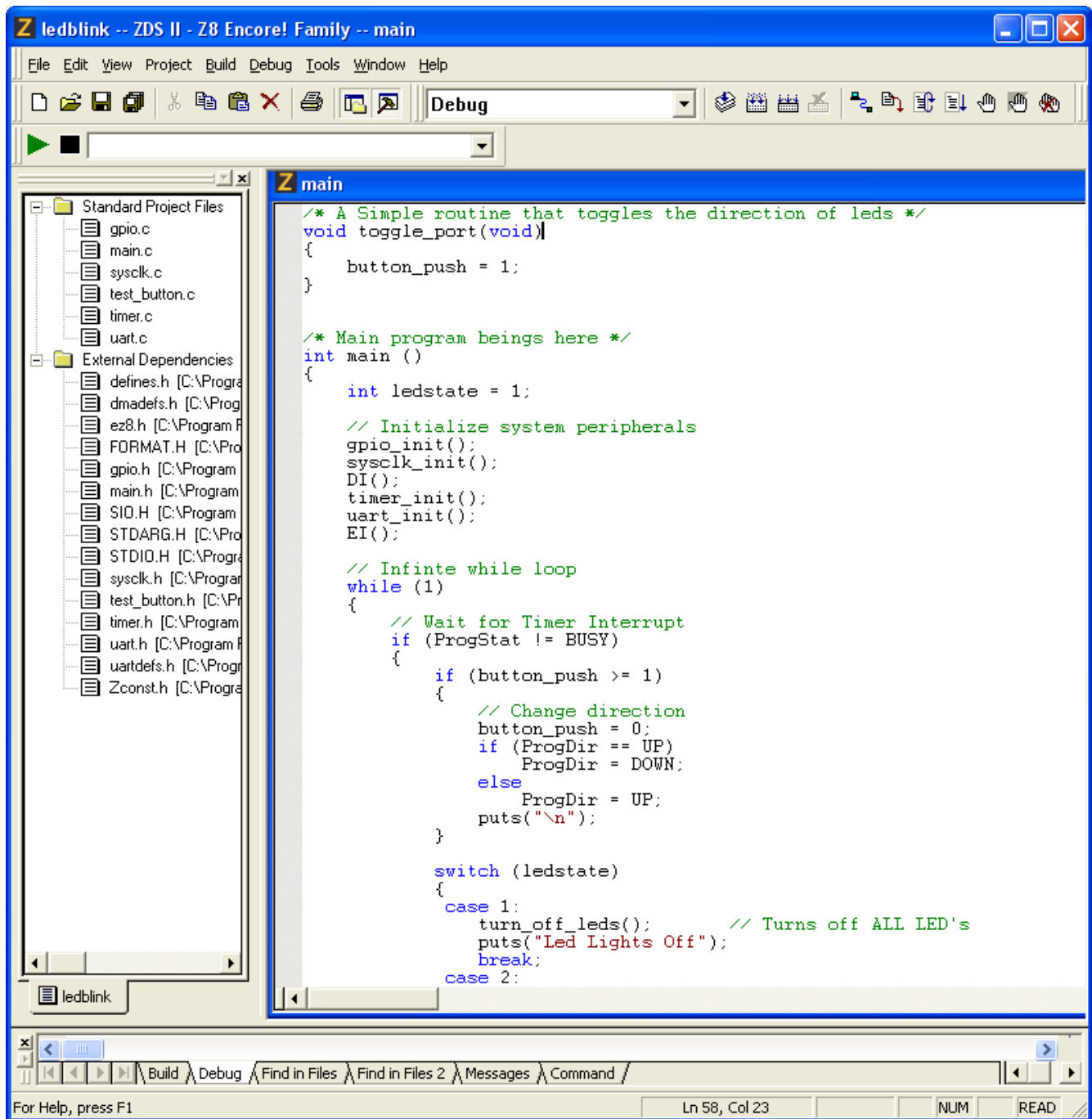
### **Objective:**

At the end of this session, you will have a fair understanding of

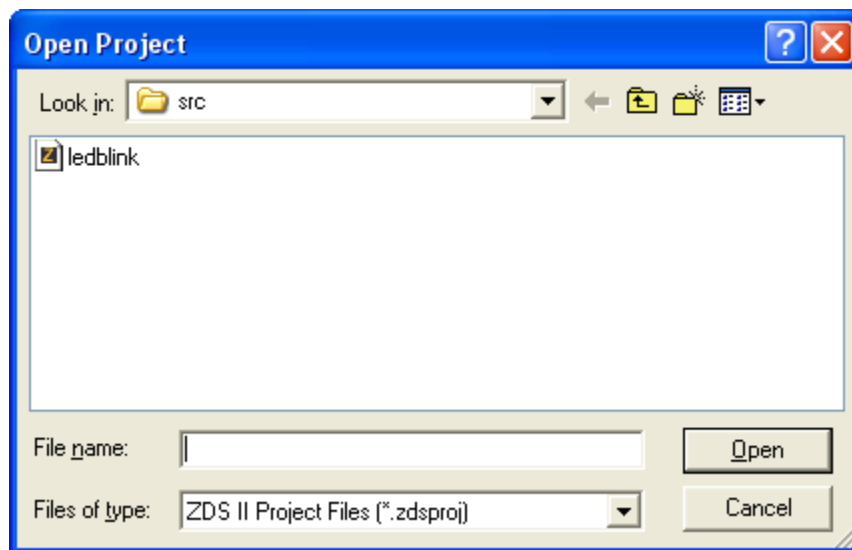
- Z8 Encore! language tools including C compiler, assembler, linker/locator, and librarian
- Instruction set simulator and disassembler
- Zilog Standard Library (ZSL)
- In-Circuit Z8 Encore! Flash MCU debugger and programmer
- USB Smart Cable

### **Processor:**

**XP8F042A** ( Z8Encore\_XP\_4K\_8Pin\_Series / Z8Encore!\_XP\_F082A\_8Pin\_Series )  
Development Kit used: **Z8F04A08100KIT**



**File → Open Project**



## ledblink

- C Programming fundamentals (1 week)
- Understanding CPU **XP8F042A capabilities**
- Hardware Details

The key features of the Z8 Encore! XP® F042A Series 8-pin MCU include:

- eZ8™ core CPU • 4 KB Flash memory with in-circuit programming capability
- 1 KB register RAM • 5-channel, 10-bit analog-to-digital converter (ADC)
- Full-duplex UART • Infrared Data Association (IrDA)-compliant infrared encoder/decoder
- Two 16-bit timers with capture, compare, and PWM capability
- Watchdog Timer (WDT) with internal RC oscillator
- Six I/O pins • Programmable priority interrupts
- On-Chip Debugger
- Voltage Brownout (VBO) Protection
- Power-On Reset (POR)
- 2.7 V–3.6 V operating voltage with 5 V-tolerant inputs
- Operating temperatures: 20 °C ±10 °C

- Connecting the Development Kit to the smart USB cable and uploading the firmware to CPU flash memory.
- Running the program
- Single stepping the program and monitor the registers
- Z8 Encore XP F042A Series 8-Pin Dev Kit User Manual UM0187.pdf
- Z8 Encore XP F042A 8-Pin Development Kit QS0055
- Refer Video **#PSEMBP99 for a Demo of this project.**

**Development Kit:** The student would be recommended to buy an appropriate Development kit from Zilog. All programing and technical support and guidance would be provided by ProjectSchool.

Recommended for : **High School STEM students/Community College**