#### Mohanad Mohamed Abdelmonem Eissa

## Lab 3

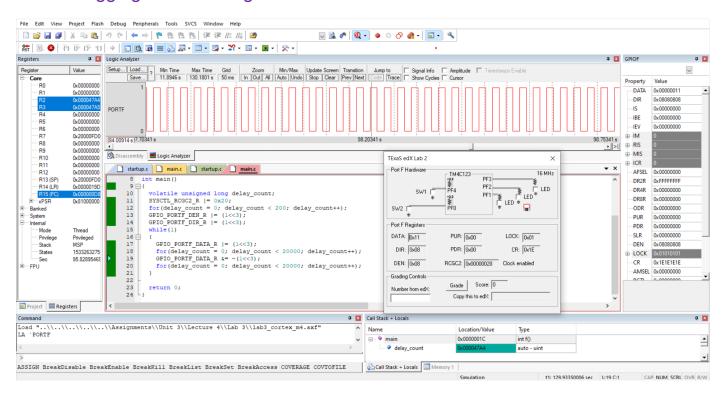
#### Building project using Makefile

```
MINGW64:/d/ks_diploma/Assignments/Unit 3/Lecture 4/Lab 3

Mohanad@LAPTOP-D8IODKRS MINGW64 /d/ks_diploma/Assignments/Unit 3/Lecture 4/Lab 3

make
arm-none-eabi-gcc.exe -c -I . -mthumb -mcpu=cortex-m4 -gdwarf-2 main.c -o main.o
arm-none-eabi-gcc.exe -c -I . -mthumb -mcpu=cortex-m4 -gdwarf-2 startup.c -o sta
rtup.o
arm-none-eabi-ld.exe -T linker_script.ld main.o startup.o -o lab3_cortex_m4.el
f -Map=Map_file.map
arm-none-eabi-objcopy.exe -O binary lab3_cortex_m4.elf lab3_cortex_m4.bin
=====build is done=====
```

### Debugging on Keil using simulator



# Debugging on Keil using TivaC board and Stellaris ICDI

```
00000
           startup.c main.c startup.c main.c
               9 □ {
00fd0
0019d
              10
                      volatile unsigned long delay_count;
                      SYSCTL_RCGC2 R |= 0x20;
for(delay_count = 0; delay_count < 200; delay_count++);
GPIO_PORTF_DEN_R |= (1<<3);
GPIO_PORTF_DIR_R |= (1<<3);</pre>
              11
00000
              12
              13
              14
              15
                      while (1)
                         GPIO_PORTF_DATA_R |= (1<<3);
                     for(delay_count = 0; delay_count < 20000; delay_count++);
GPIO_PORTF_DATA_R &= ~(1<<3);</pre>
              20
                         for(delay_count = 0; delay_count < 20000; delay_count++);</pre>
00000
               22
               23
                                                                                              ₽ X Call Sta
Size Limit: 32K
                                                                                                     Name
JTAG, Speed=1000000HzLoad "..\\..\\..\\Assignments\\Unit 3\\Lecture
```

