

Lab – 0 Datasheet

CpE 4010: Sensors, Actuators and Integration

Name: Anindita Deb

KSU ID: 000922115

From procedure 5:

Insert your screenshot of the code and console

[illegible]

Problems Tasks Console Properties

CDT Build Console [CPE4010_lab0]

21:32:19 **** Build of configuration Debug for project CPE4010_lab0 ****

make -j8 all

Building file: ../startup/systemem.c

Building file: ../startup/startup_stm32.s

Building file: ../src/main.c

Invoking: MCU GCC Compiler

Invoking: MCU GCC Assembler

Invoking: MCU GCC Compiler

C:\Users\mc2di\CPE4010\CPE4010_lab0\Debug

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -DS

C:\Users\mc2di\CPE4010\CPE4010_lab0\Debug

C:\Users\mc2di\CPE4010\CPE4010_lab0\Debug

arm-none-eabi-as -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -g -

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -DS

Finished building: ../startup/startup_stm32.s

Finished building: ../src/main.c

Finished building: ../startup/systemem.c

Building target: CPE4010_lab0.elf

Invoking: MCU GCC Linker

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -T"

Finished building target: CPE4010_lab0.elf

make --no-print-directory post-build

Generating binary and Printing size information:

arm-none-eabi-objcopy -O binary "CPE4010_lab0.elf" "CPE4010_lab0.bin"

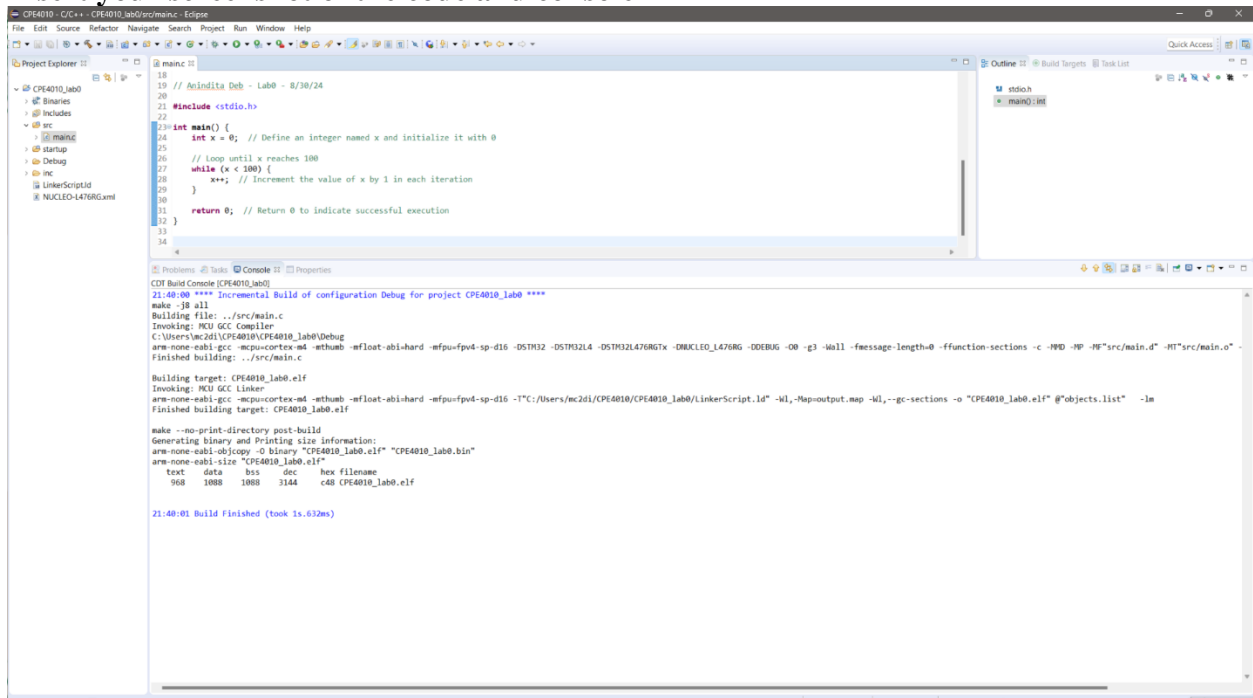
arm-none-eabi-size "CPE4010_lab0.elf"

text	data	bss	dec	hex	filename
952	1088	1088	3128	c38	CPE4010_lab0.elf

21:32:21 Build Finished (took 2s.401ms)

From procedure 7:

Insert your screenshot of the code and console



The screenshot shows an IDE with a C program in `main.c` and its build output in the console. The code is as follows:

```
18
19 // Anindita Deb - Lab0 - 8/30/24
20
21 #include <stdio.h>
22
23 int main() {
24     int x = 0; // Define an integer named x and initialize it with 0
25
26     // Loop until x reaches 100
27     while (x < 100) {
28         x++; // Increment the value of x by 1 in each iteration
29     }
30
31     return 0; // Return 0 to indicate successful execution
32 }
33
34
```

The console output shows the build process:

```
21:40:00 **** Incremental Build of configuration Debug for project CPE4010_lab0 ****
make -f8 all
Building file: ../src/main.c
Invoking: MCU GCC Compiler
C:\Users\mc261\CPE4010\CPE4010_lab0\Debug
arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpu=fpv4-sp-d16 -DSTM32 -DSTM32L476RGTX -DNKLEO_L476RG -DDEBUG -O0 -g3 -Wall -fmessage-length=0 -ffunction-sections -c -FMD -PF"src/main.d" -MT"src/main.o" -
Finished building: ../src/main.c

Building target: CPE4010_lab0.elf
Invoking: MCU GCC Linker
arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpu=fpv4-sp-d16 -T"C:\Users\mc261\CPE4010\CPE4010_lab0\LinkerScript.ld" -Wl,-Map=output.map -Wl,--gc-sections -o "CPE4010_lab0.elf" @"objects.list" -lm
Finished building target: CPE4010_lab0.elf

make -no-print-directory post-build
Generating binary and Printing size information:
arm-none-eabi-objcopy -O binary "CPE4010_lab0.elf" "CPE4010_lab0.bin"
arm-none-eabi-size "CPE4010_lab0.elf"
text      data      bss      dec      hex filename
968      1088      1088      3144      c48 CPE4010_lab0.elf

21:40:01 Build Finished (took 1s.632ms)
```

The code is shown in a separate window below the screenshot:

```
main.c
18
19 // Anindita Deb - Lab0 - 8/30/24
20
21 #include <stdio.h>
22
23 int main() {
24     int x = 0; // Define an integer named x and initialize it with 0
25
26     // Loop until x reaches 100
27     while (x < 100) {
28         x++; // Increment the value of x by 1 in each iteration
29     }
30
31     return 0; // Return 0 to indicate successful execution
32 }
33
34
```

Problems Tasks Console Properties

CDT Build Console [CPE4010_lab0]

21:40:00 **** Incremental CDT Build Console [CPE4010_lab0] ug for project CPE4010_lab0 ****

make -j8 all

Building file: ../src/main.c

Invoking: MCU GCC Compiler

C:\Users\mc2di\CPE4010\CPE4010_lab0\Debug

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpu=fpv4-sp-d16 -DSTM32 -D

Finished building: ../src/main.c

Building target: CPE4010_lab0.elf

Invoking: MCU GCC Linker

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpu=fpv4-sp-d16 -T"C:/User

Finished building target: CPE4010_lab0.elf

make --no-print-directory post-build

Generating binary and Printing size information:

arm-none-eabi-objcopy -O binary "CPE4010_lab0.elf" "CPE4010_lab0.bin"

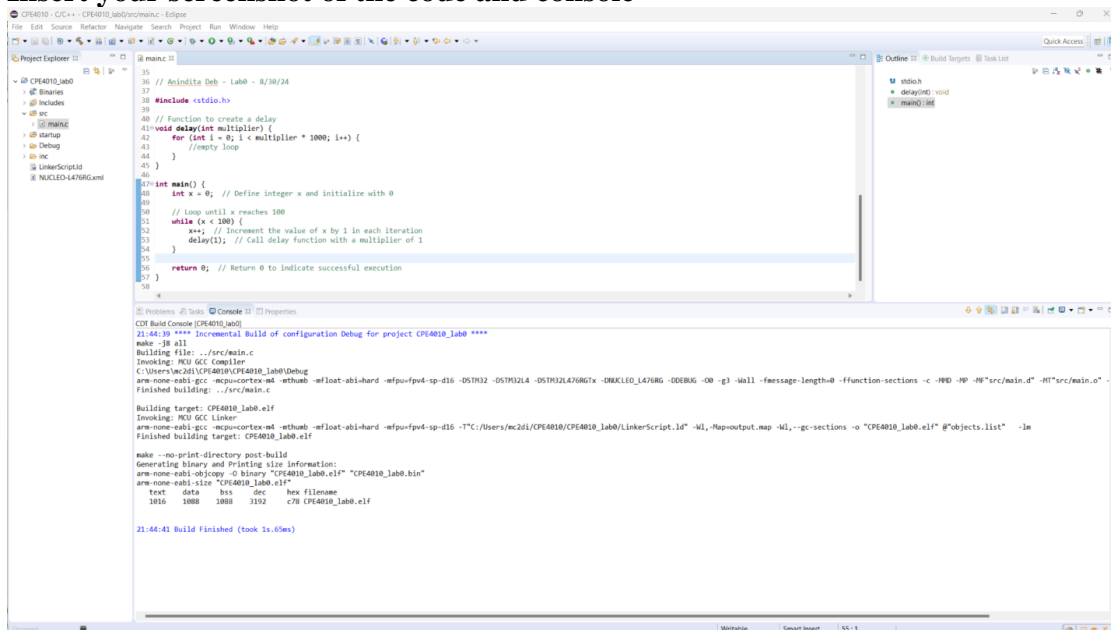
arm-none-eabi-size "CPE4010_lab0.elf"

text	data	bss	dec	hex	filename
968	1088	1088	3144	c48	CPE4010_lab0.elf

21:40:01 Build Finished (took 1s.632ms)

Also, from procedure 10:

Insert your screenshot of the code and console



```
main.c
35
36 // Anindita Deb - Lab0 - 8/30/24
37
38 #include <stdio.h>
39
40 // Function to create a delay
41 void delay(int multiplier) {
42     for (int i = 0; i < multiplier * 1000; i++) {
43         //empty loop
44     }
45 }
46
47 int main() {
48     int x = 0; // Define integer x and initialize with 0
49
50     // Loop until x reaches 100
51     while (x < 100) {
52         x++; // Increment the value of x by 1 in each iteration
53         delay(1); // Call delay function with a multiplier of 1
54     }
55
56     return 0; // Return 0 to indicate successful execution
57 }
58
```

Problems Tasks Console Properties

CDT Build Console [CPE4010_lab0]

21:44:39 **** Incremental Build of configuration Debug for project CPE4010_lab0 ****

make -j8 all

Building file: ../src/main.c

Invoking: MCU GCC Compiler

C:\Users\mc2di\CPE4010\CPE4010_lab0\Debug

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -DSTM32 -DSTM32

Finished building: ../src/main.c

Building target: CPE4010_lab0.elf

Invoking: MCU GCC Linker

arm-none-eabi-gcc -mcpu=cortex-m4 -mthumb -mfloat-abi=hard -mfpv4-sp-d16 -T"C:/Users/mc2

Finished building target: CPE4010_lab0.elf

make --no-print-directory post-build

Generating binary and Printing size information:

arm-none-eabi-objcopy -O binary "CPE4010_lab0.elf" "CPE4010_lab0.bin"

arm-none-eabi-size "CPE4010_lab0.elf"

text	data	bss	dec	hex	filename
1016	1088	1088	3192	c78	CPE4010_lab0.elf

21:44:41 Build Finished (took 1s.65ms)