**Mastering Embedded System Online Diploma**

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**First Term (Final Project1)**

**Report for “High\_Pressure\_Detection” project**

**Name: Osama Khallaf Samir Moktar**

**Mail:** [**osamakhallaf0285@gmail.com**](mailto:osamakhallaf0285@gmail.com)

**Githup repo:** [**https://github.com/Osama485/Embedded\_System\_Online\_Diploma.git**](https://github.com/Osama485/Embedded_System_Online_Diploma.git)

**My profile:** [**https://www.learn-in-depth-store.com/certificate/osamakhallaf0285%40gmail.com**](https://www.learn-in-depth-store.com/certificate/osamakhallaf0285%40gmail.com)

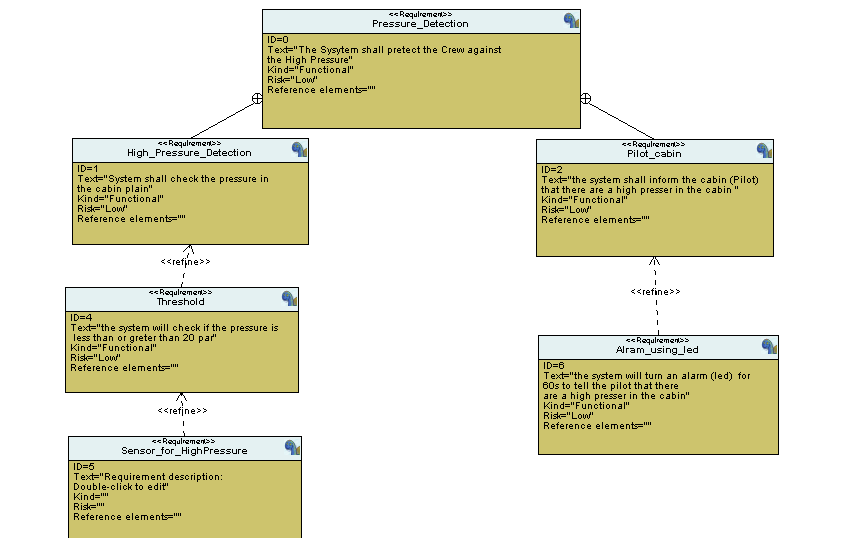
***Case Study***

**The system should be in a plain cabin, if the pressure in the cabin is higher we will put a sensor -to sense the high pressure- and connected with an Alarm to tell the crew in the cabin that there is a high pressure to be safe**

**The Sensor should make Alarm if the pressure is greater than 20 bar.**

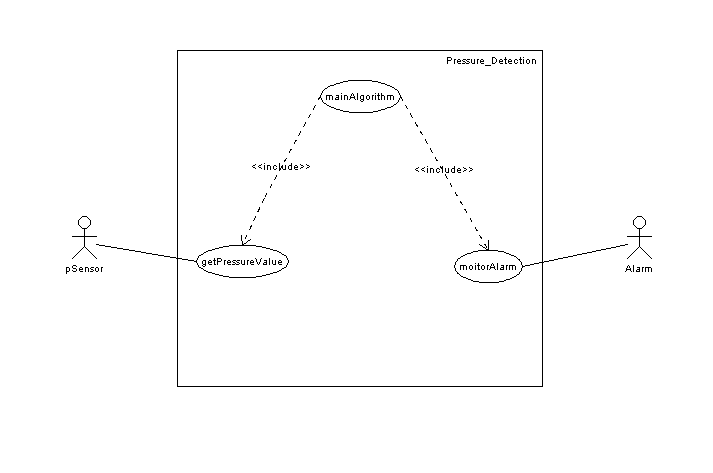
**Then the Alarm -The led- will turn on 60s and the Alarm still turn on if the pressure is greater than 20bar to tell the crew or the Pilot that there are a danger on the plain.**

***Requirements Diagram***

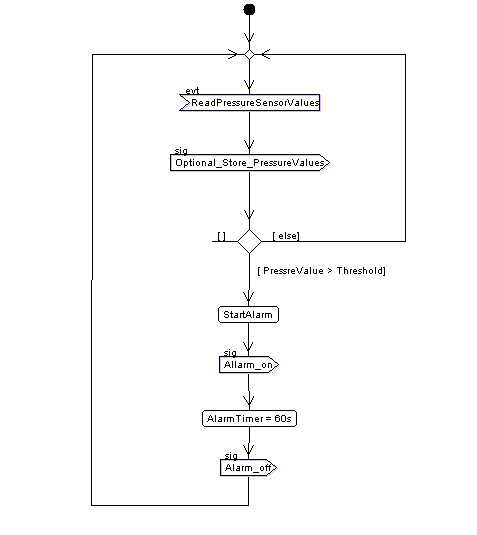
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***System Analysis***

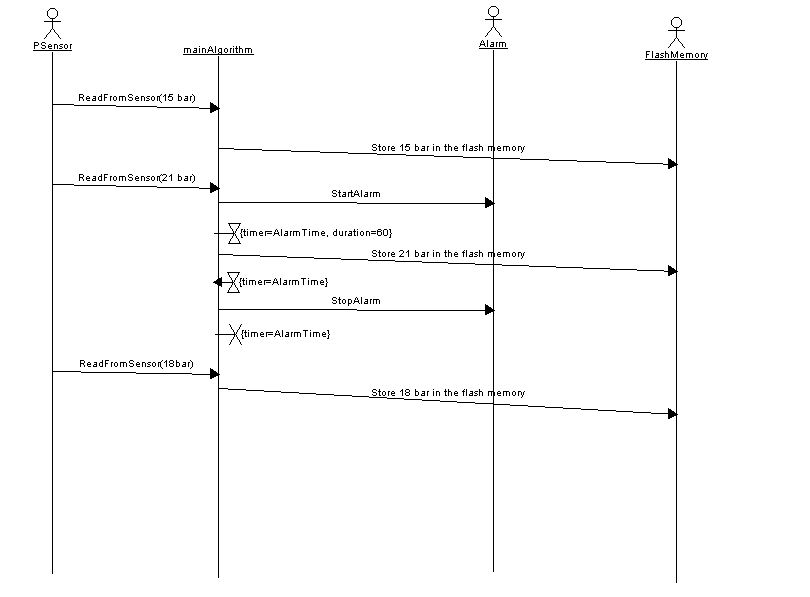
1. ***Usecase Diagram***

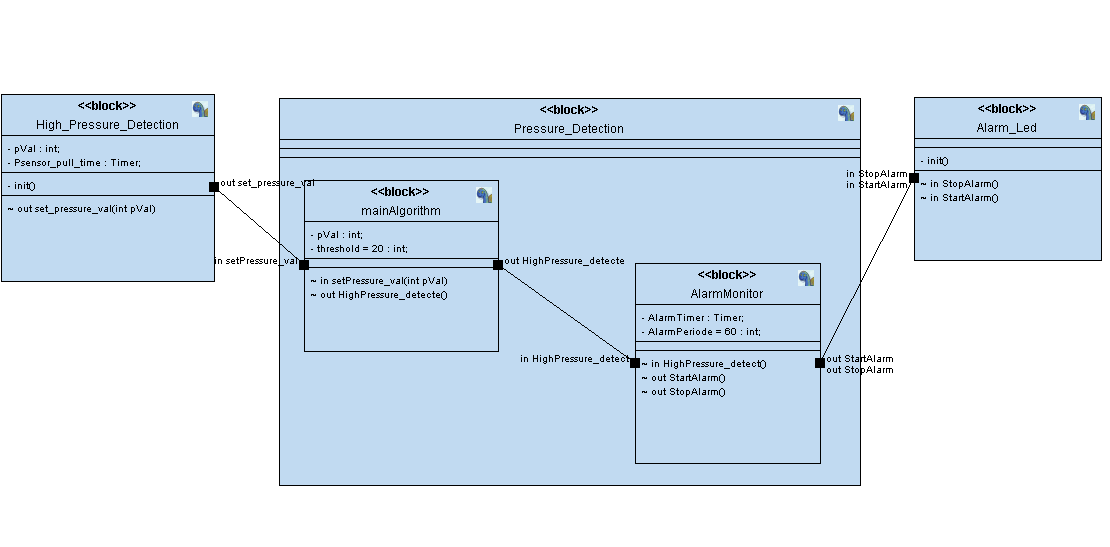


1. ***Activity Diagram***

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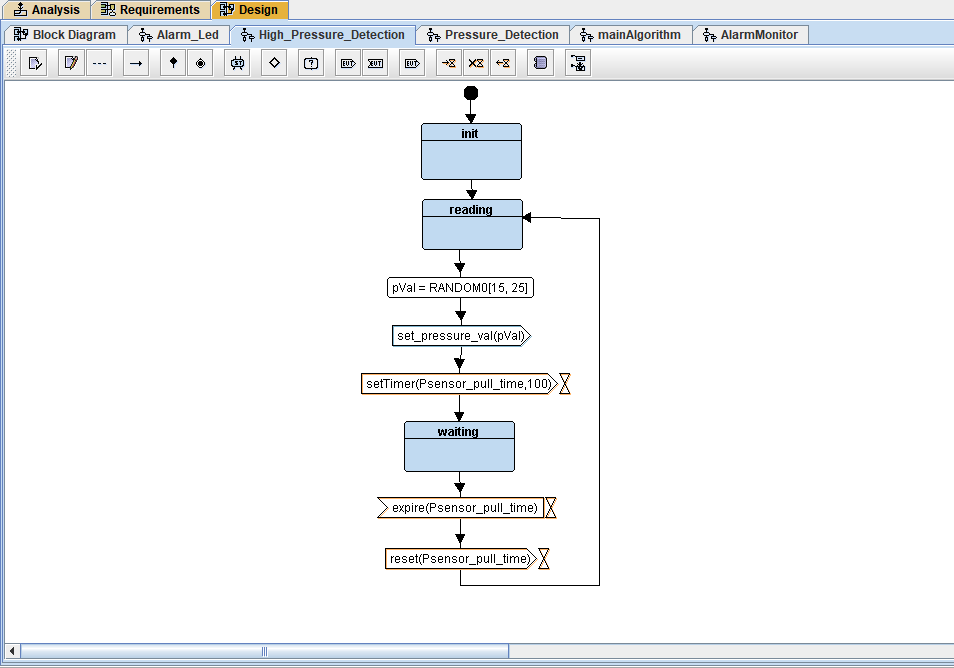
1. ***Sequence Diagram***



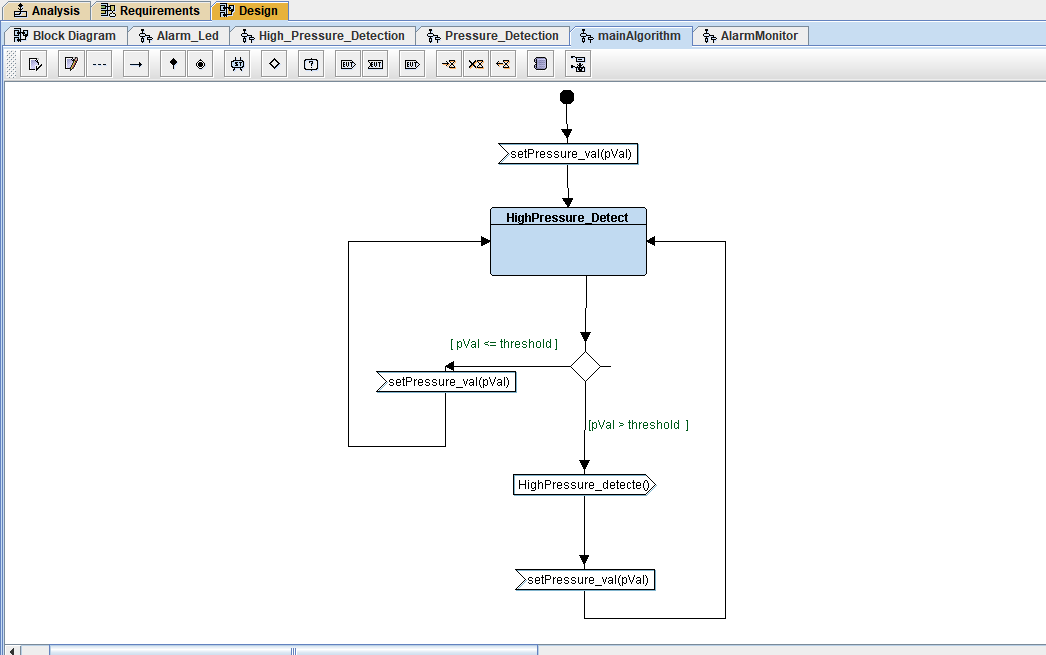
***System Design Diagram***

***State Machine of Design Diagram***

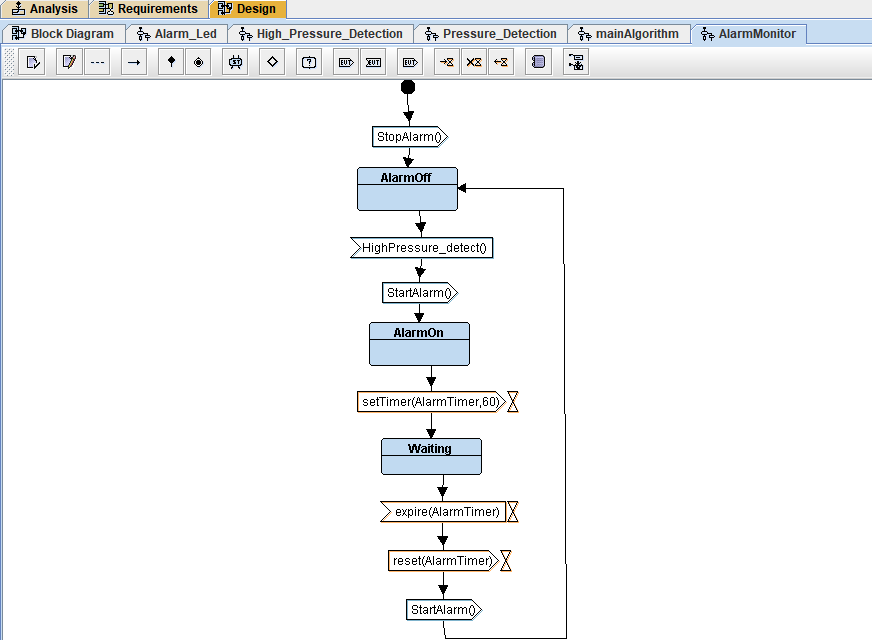
1. ***High\_Pressure\_Detection***

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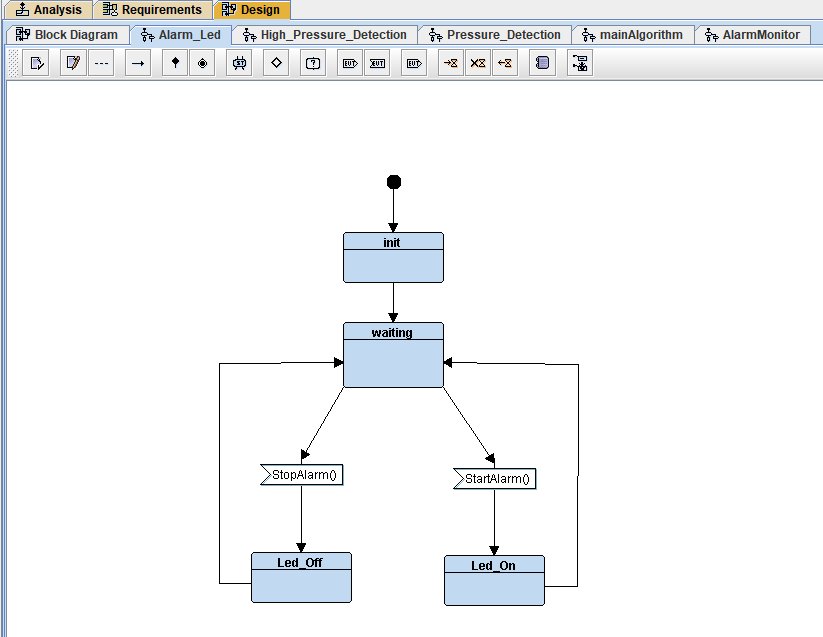
1. ***Main\_Algorithm***



1. ***Alarm\_Monitor***

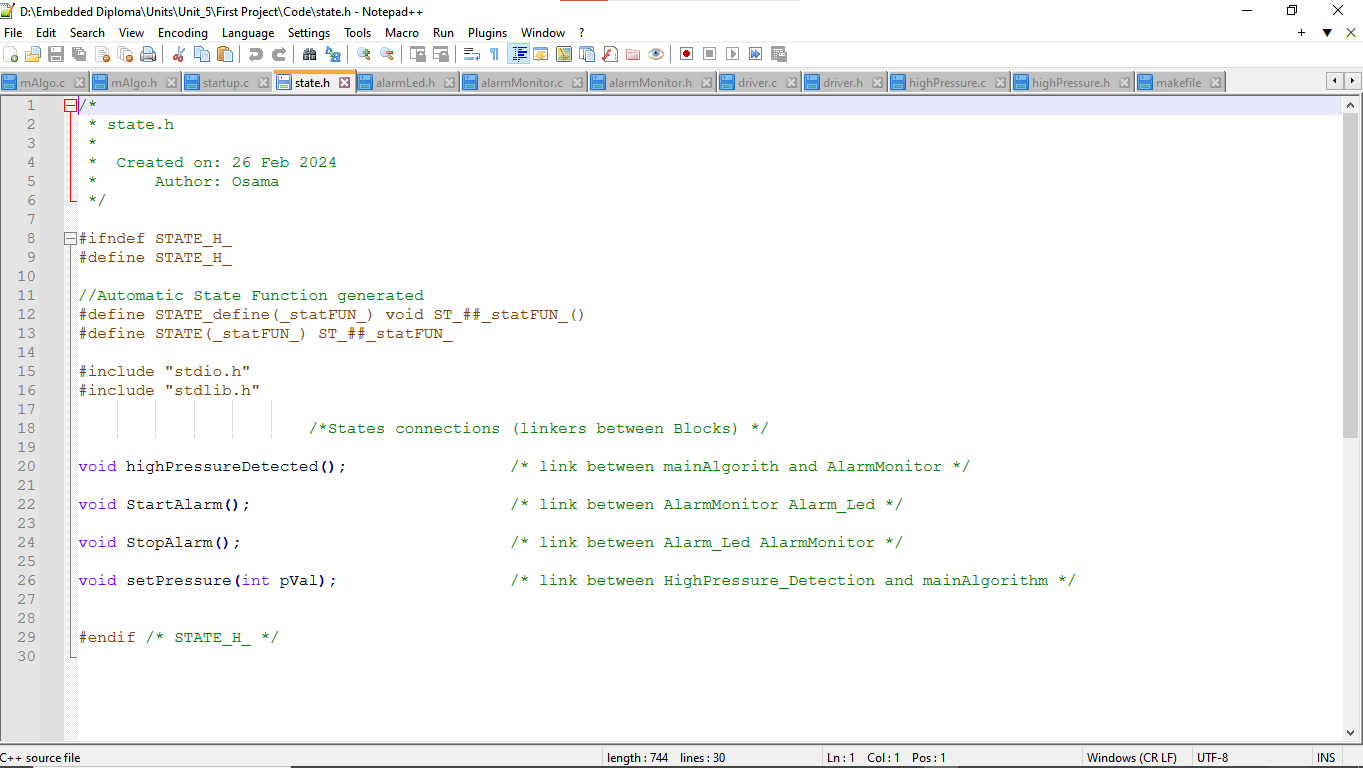
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1. ***Alarm\_Acuator(led)***

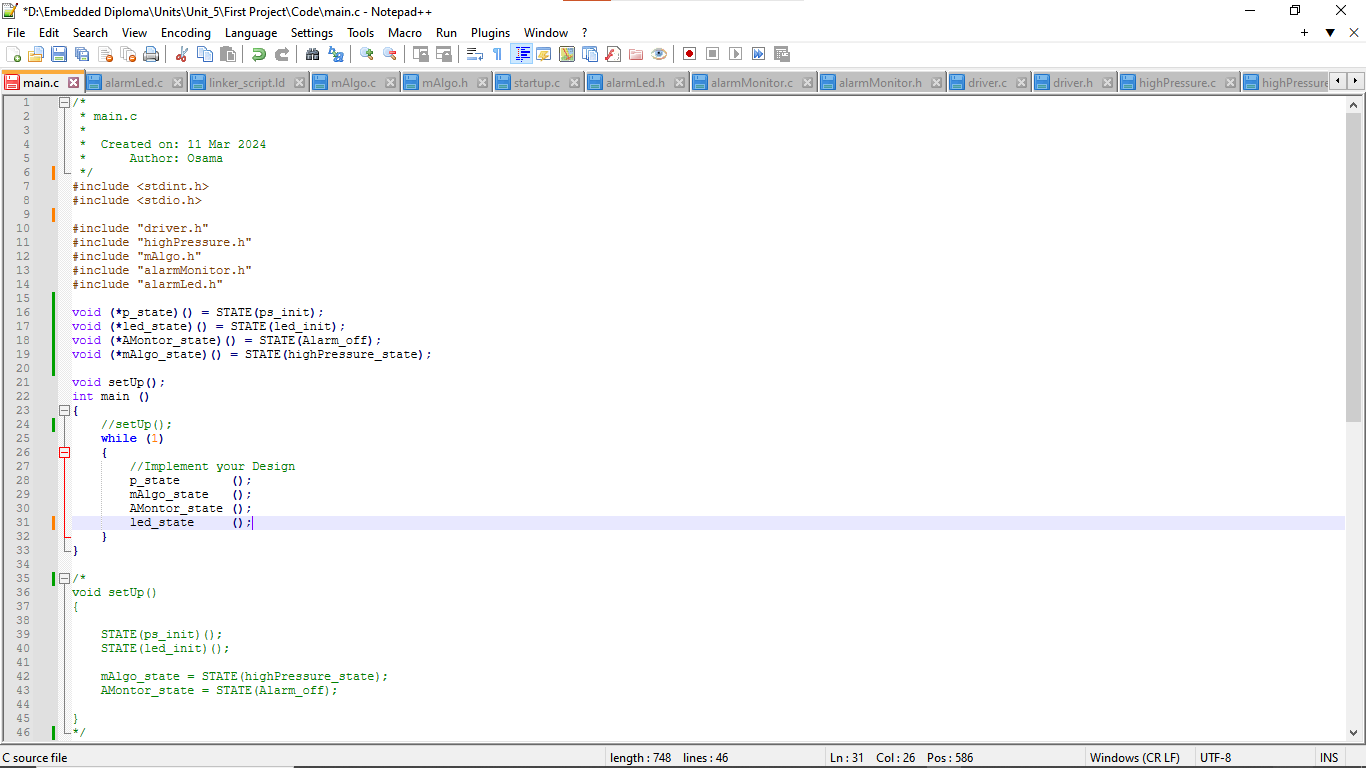
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*Files*

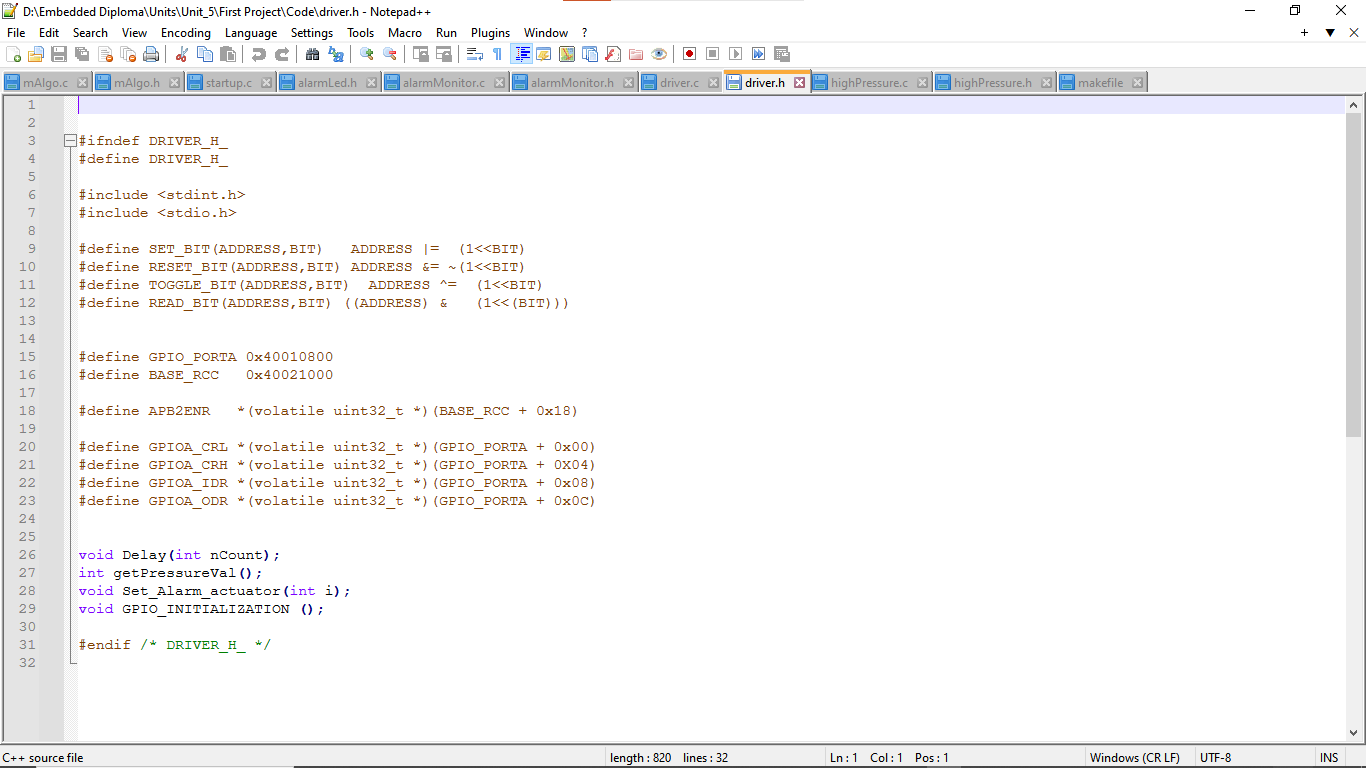
1. State.h



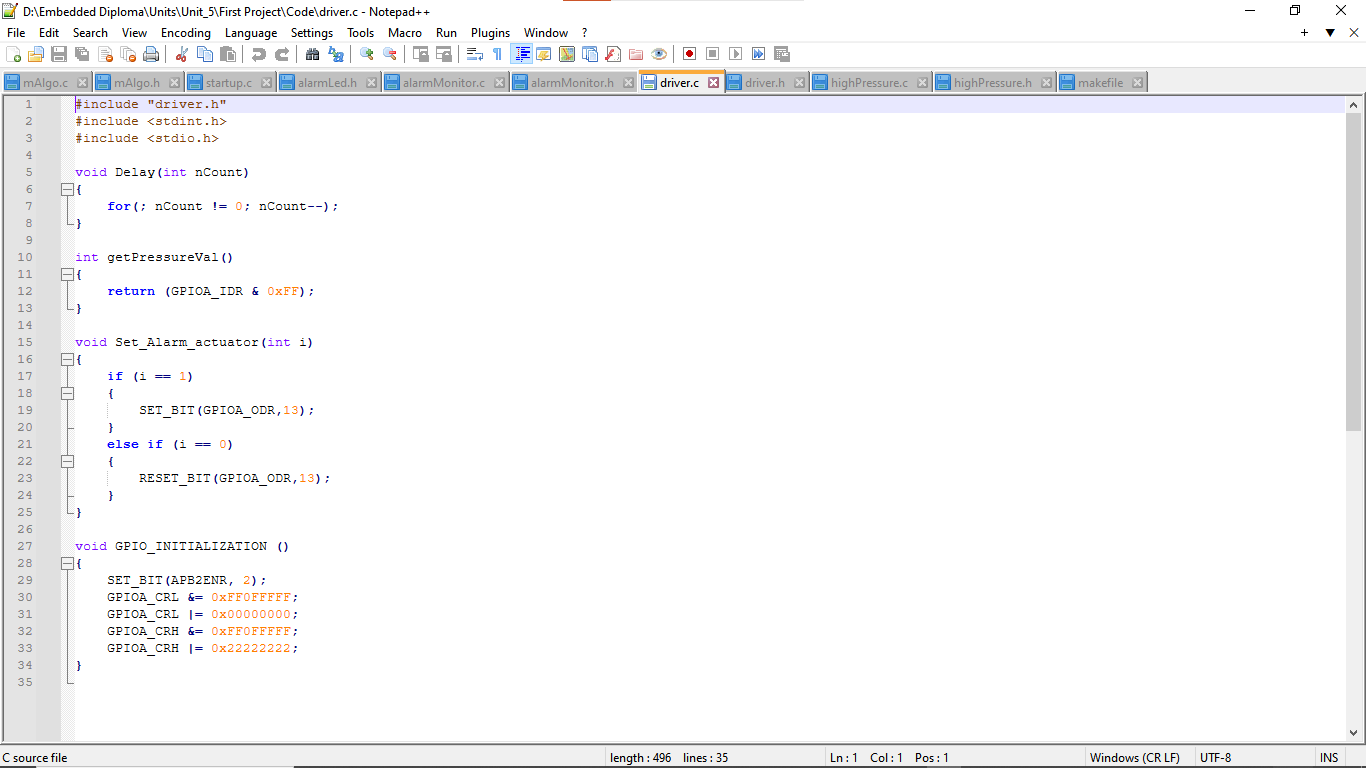
1. Main.c



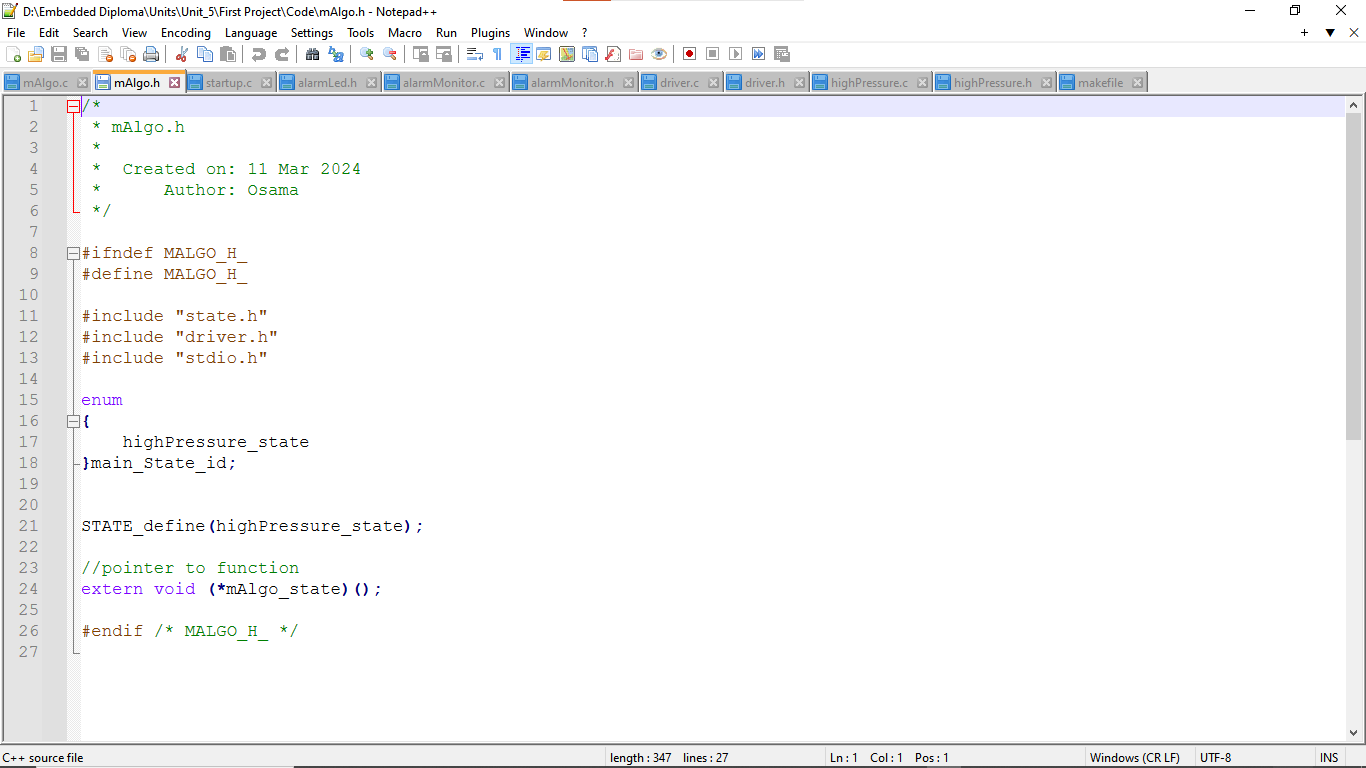
1. Driver.h



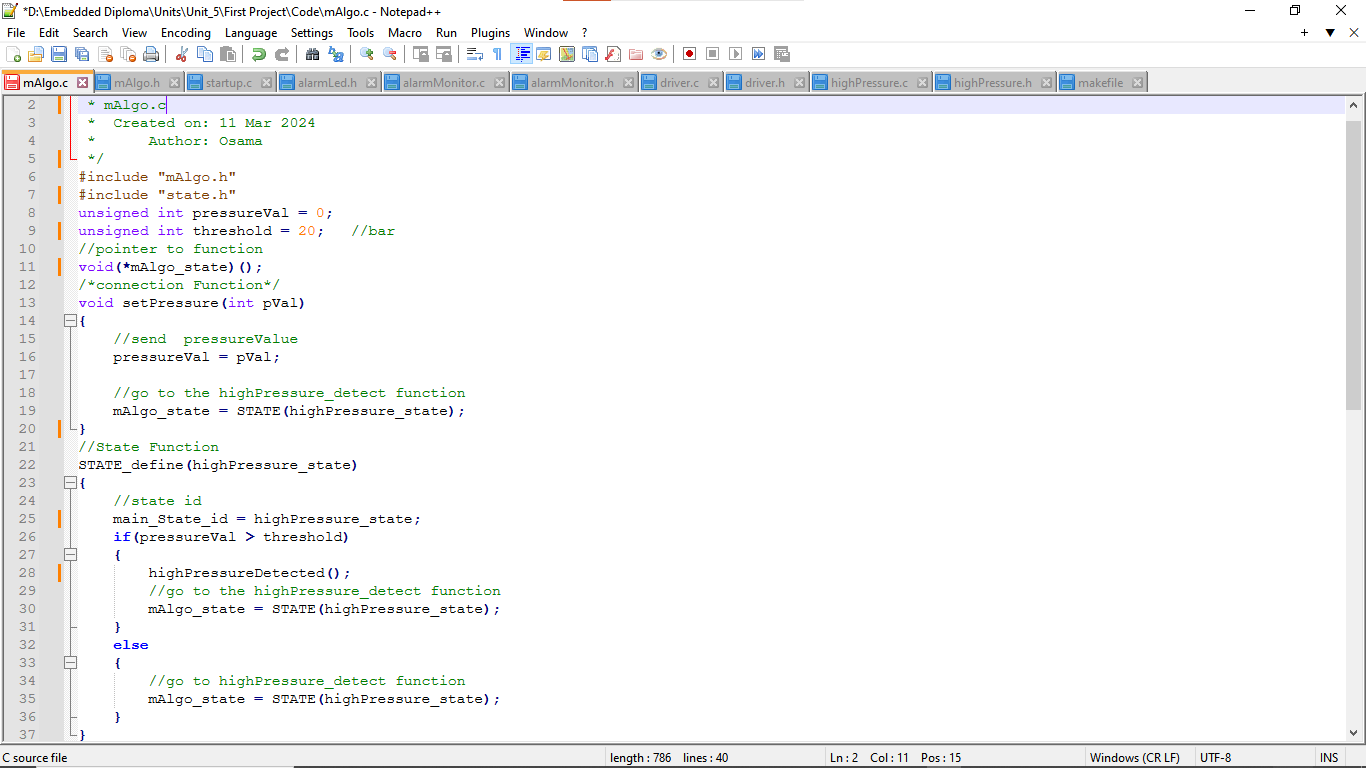
1. Driver.c



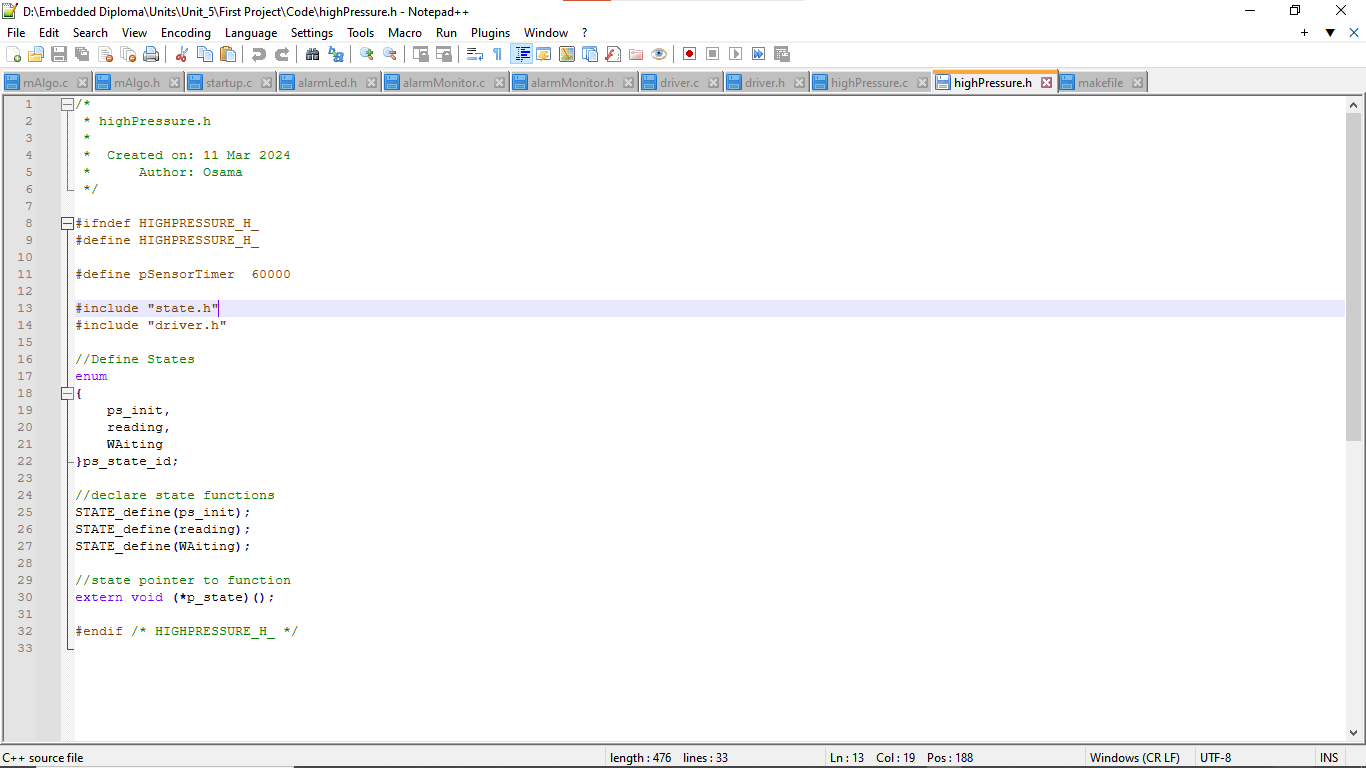
1. mainAlgorith.h



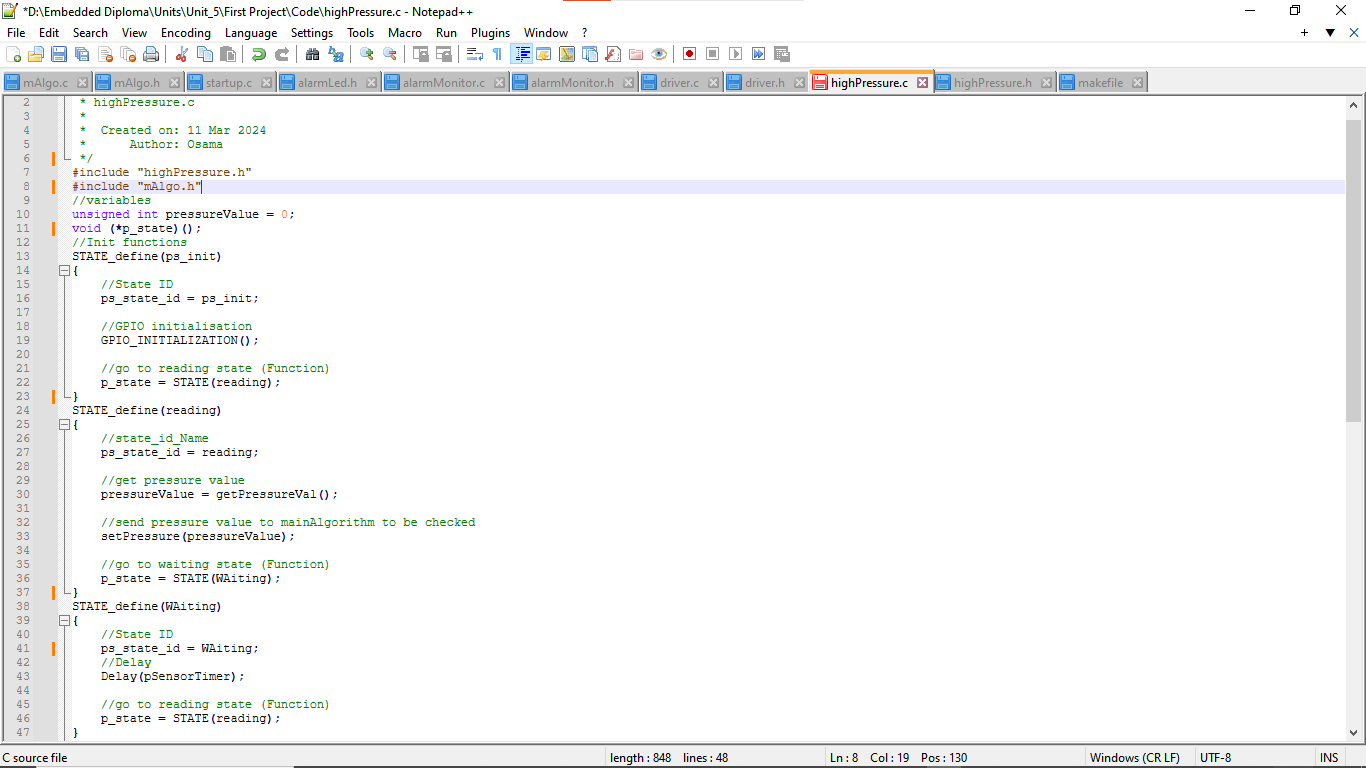
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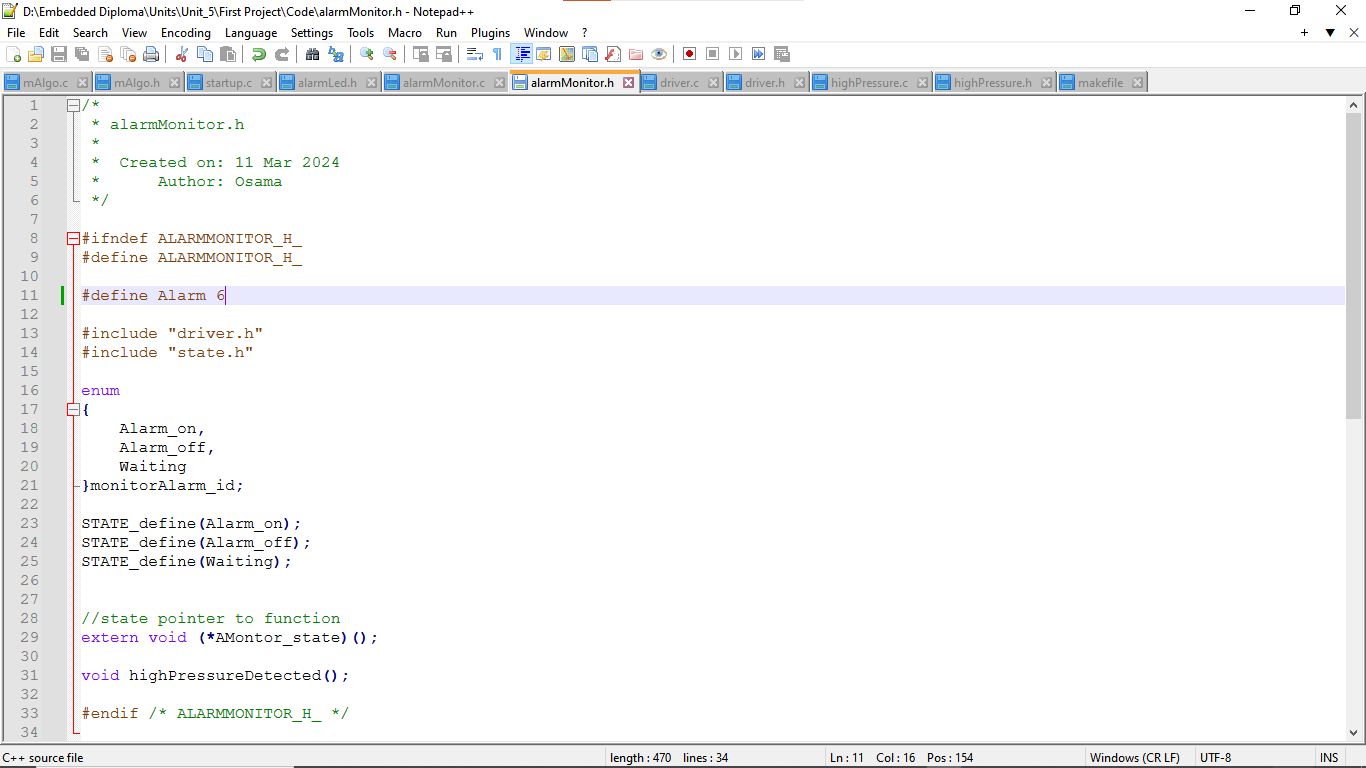
1. highpressre\_detction.h



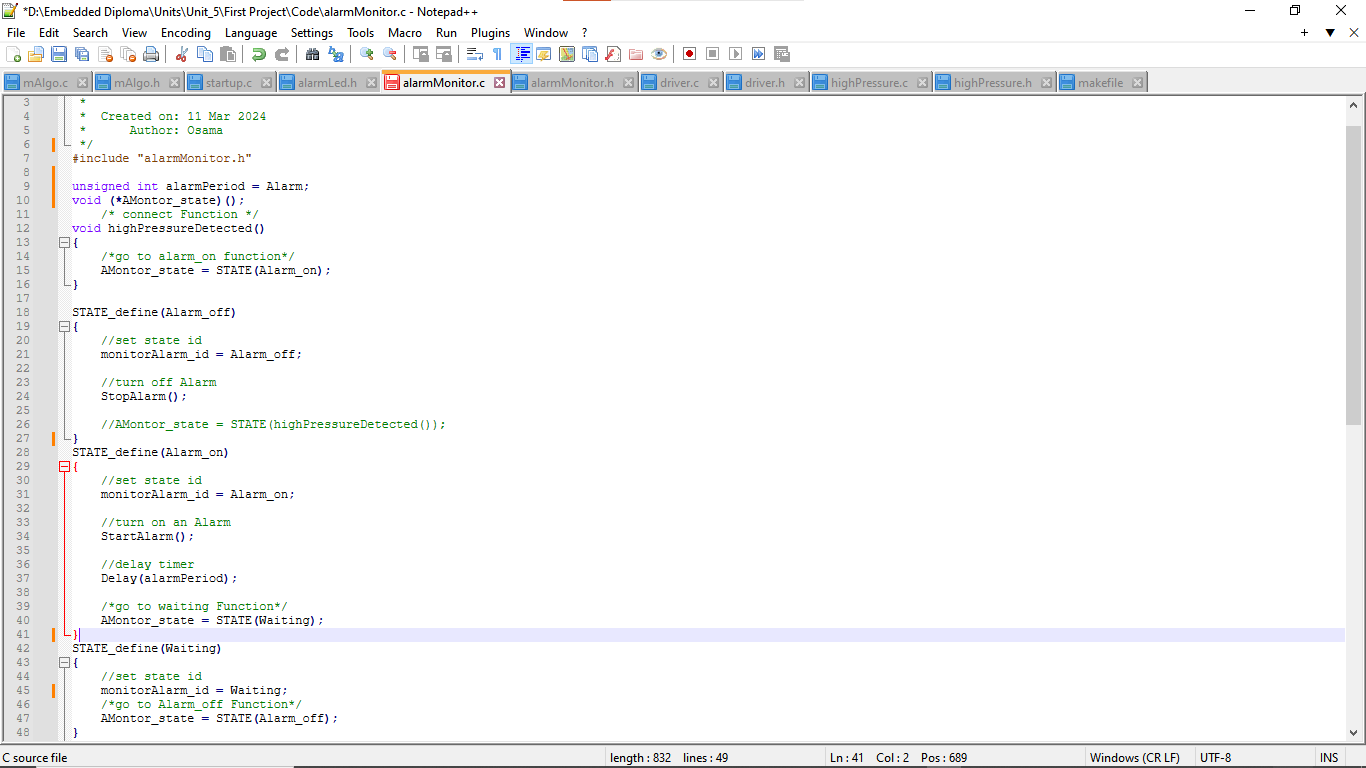
1. highpressre\_detction.c



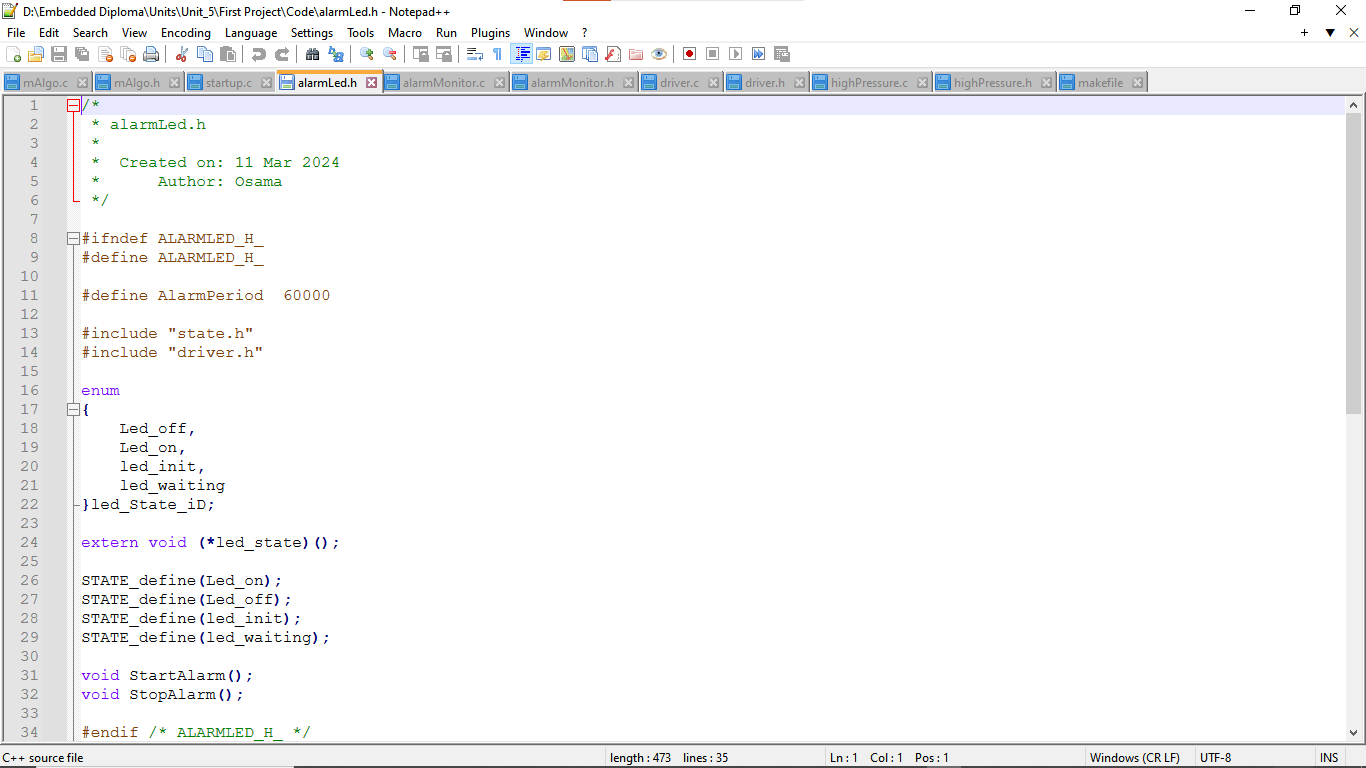
1. MonitorAlarm.h



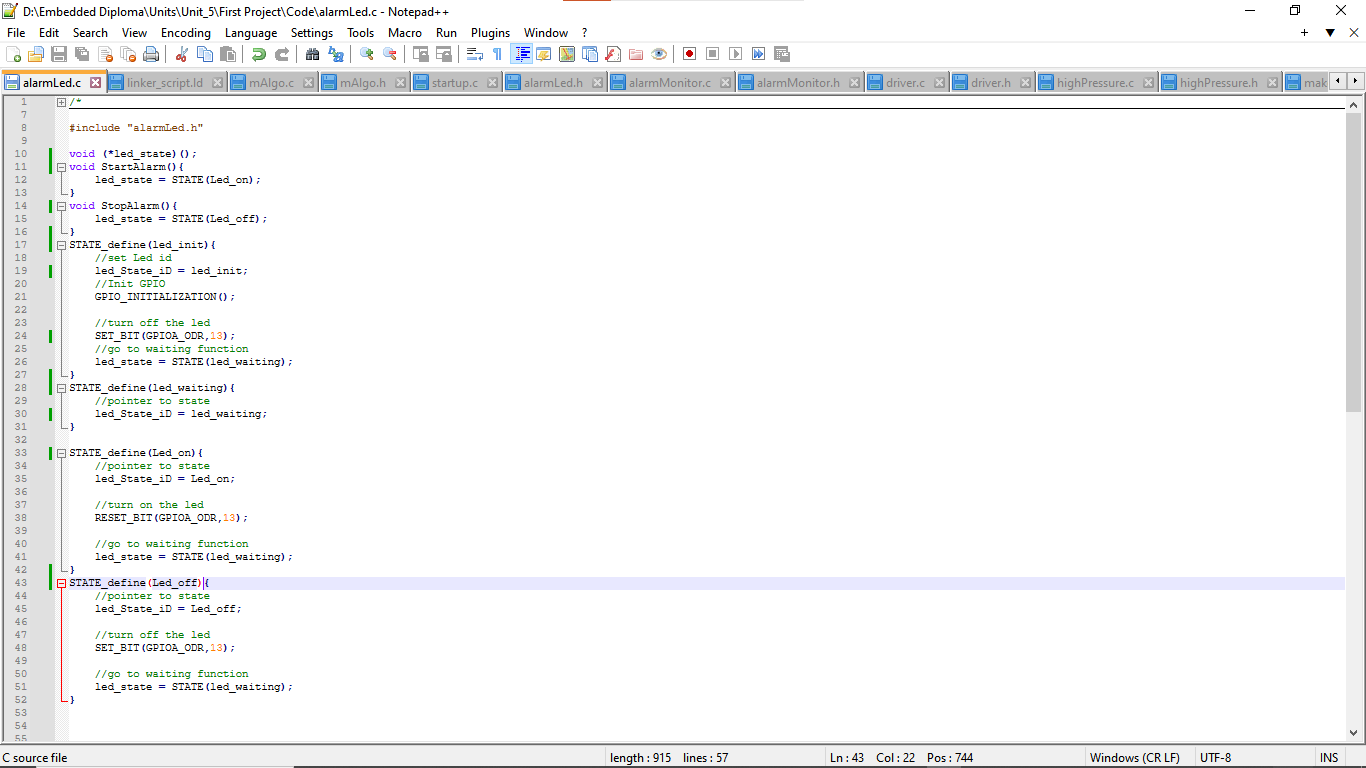
1. MonitorAlarm.c



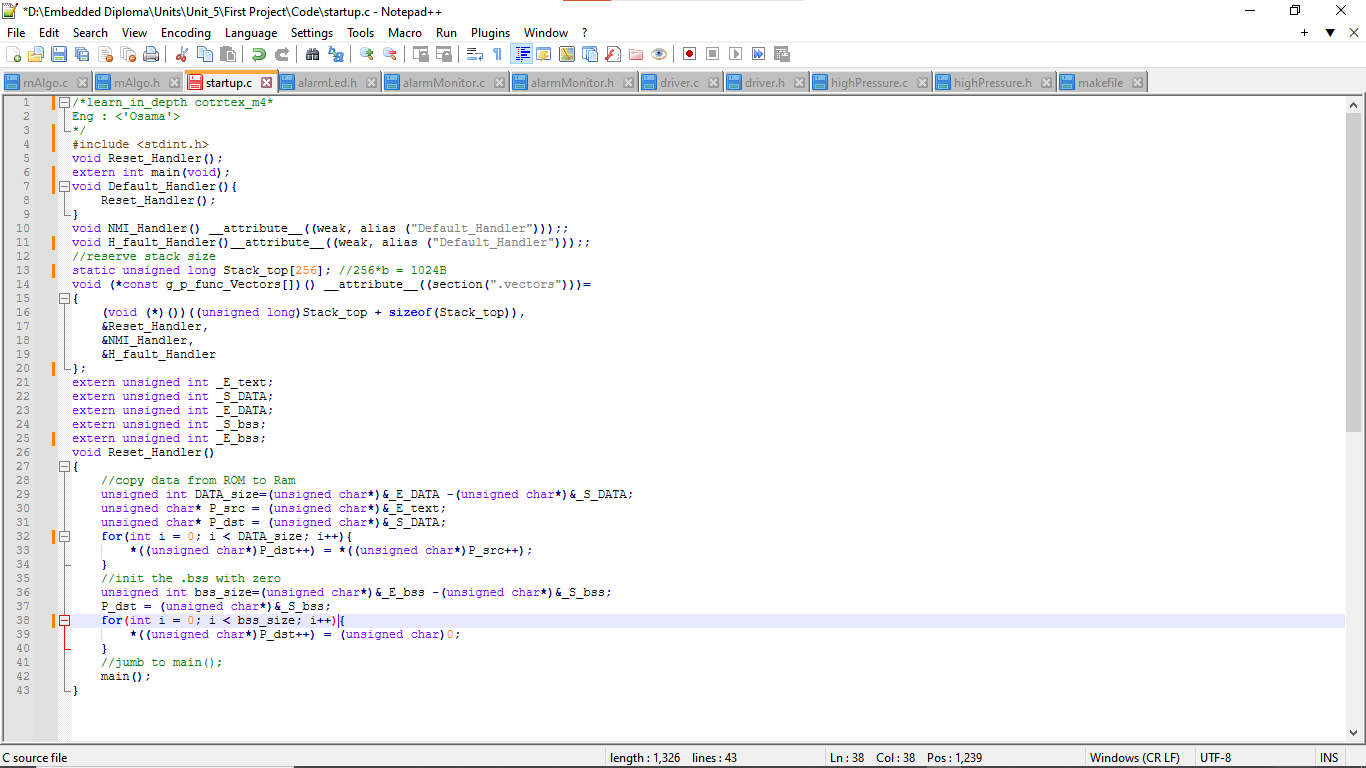
1. AlarmLed.h



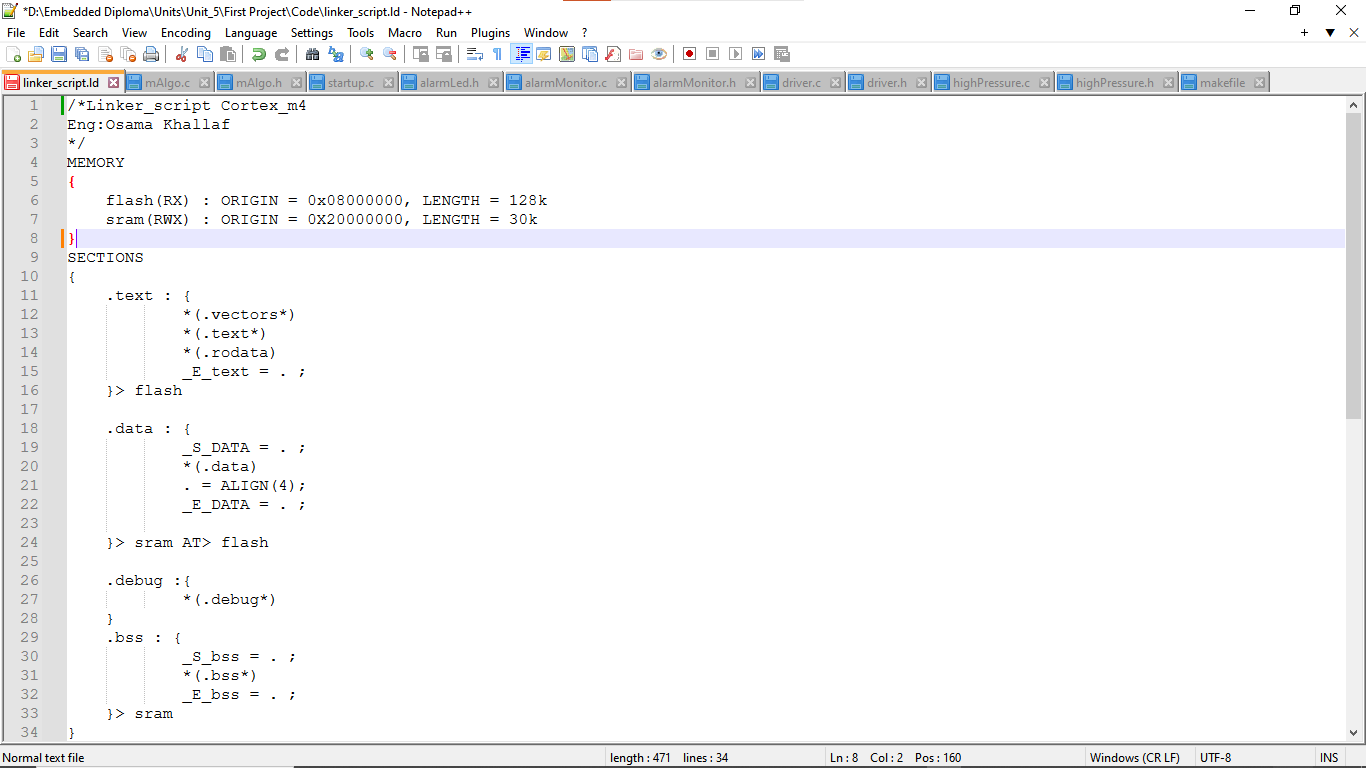
1. AlarmLed.c



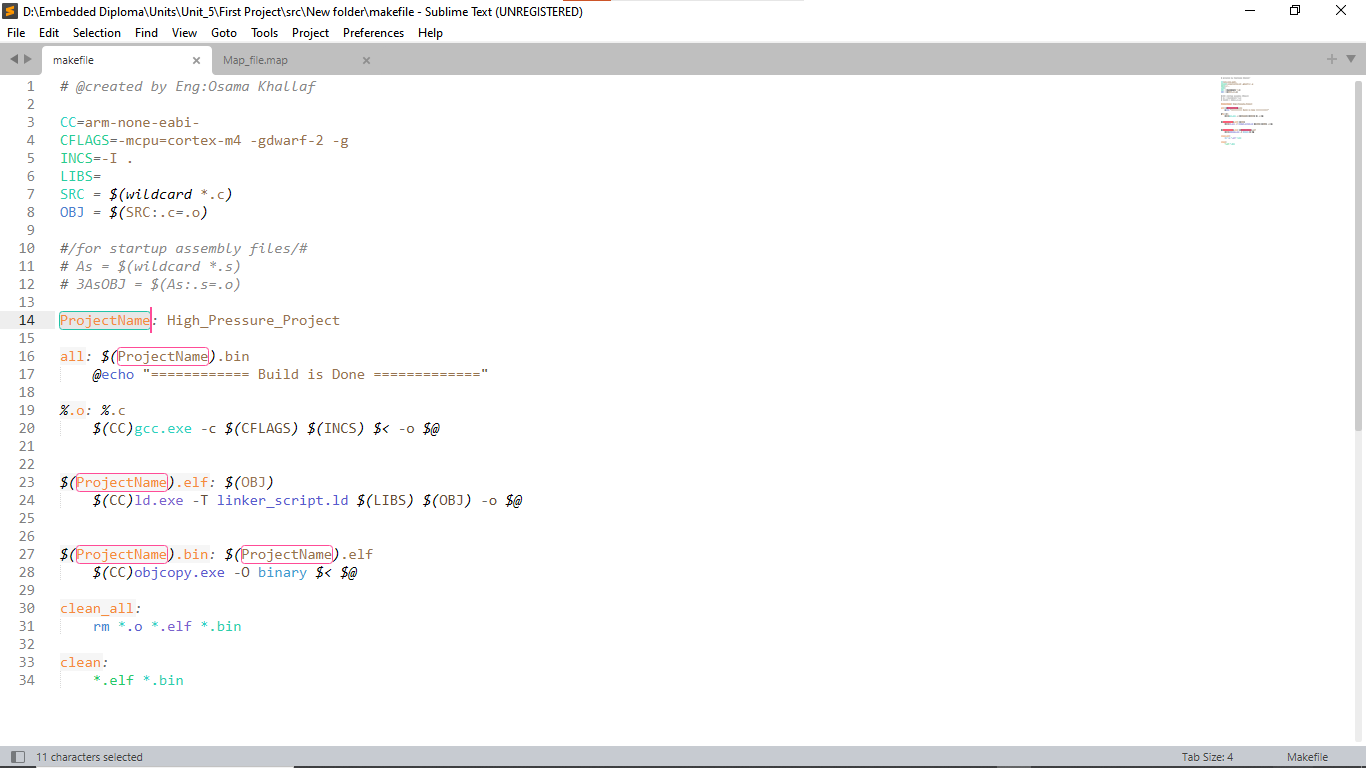
1. Startup.c



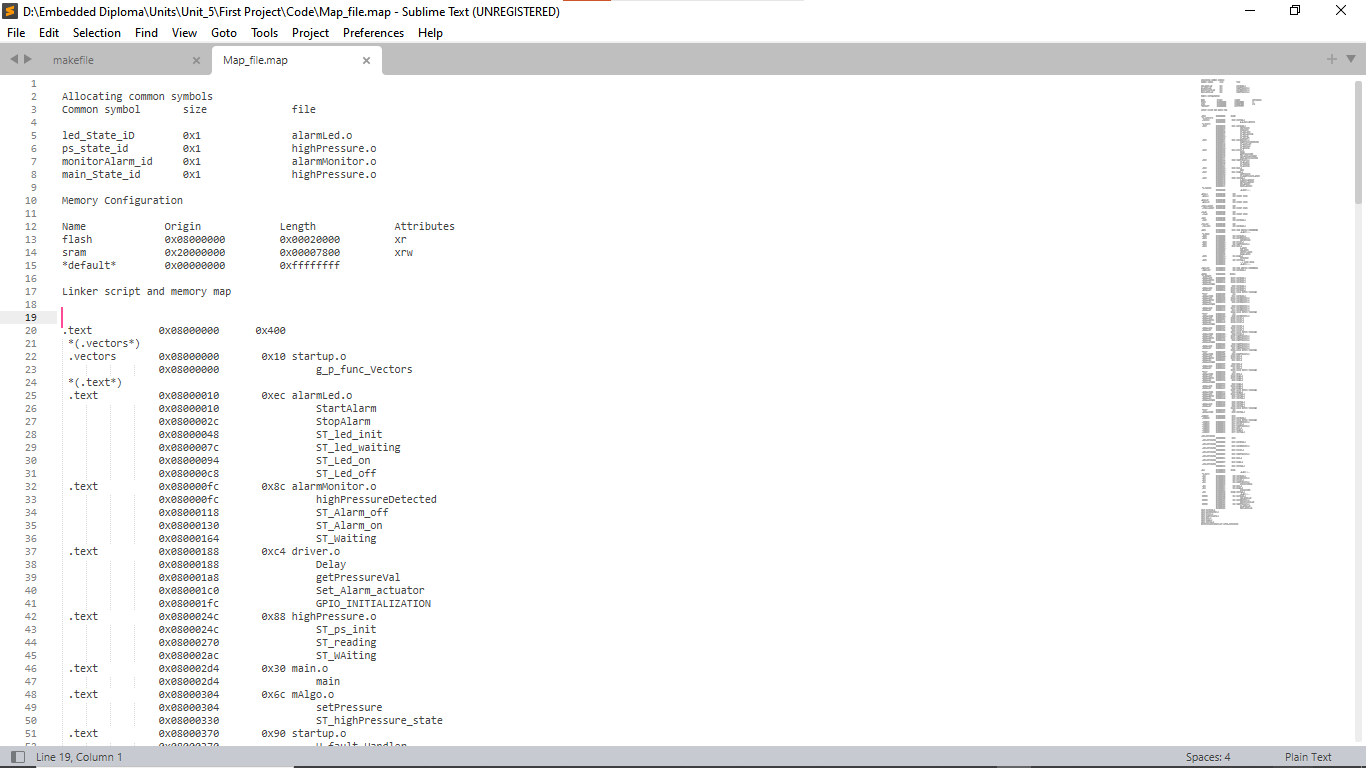
1. Linker\_script.ld



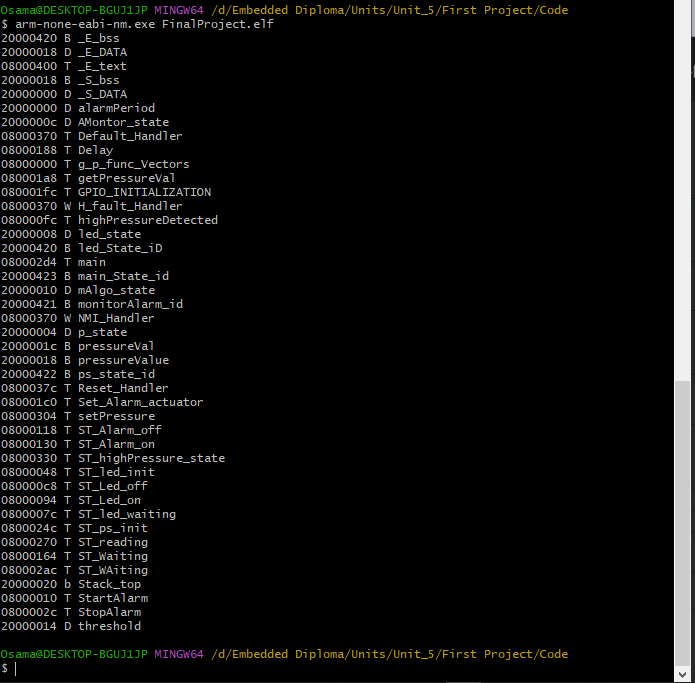
1. Makefile



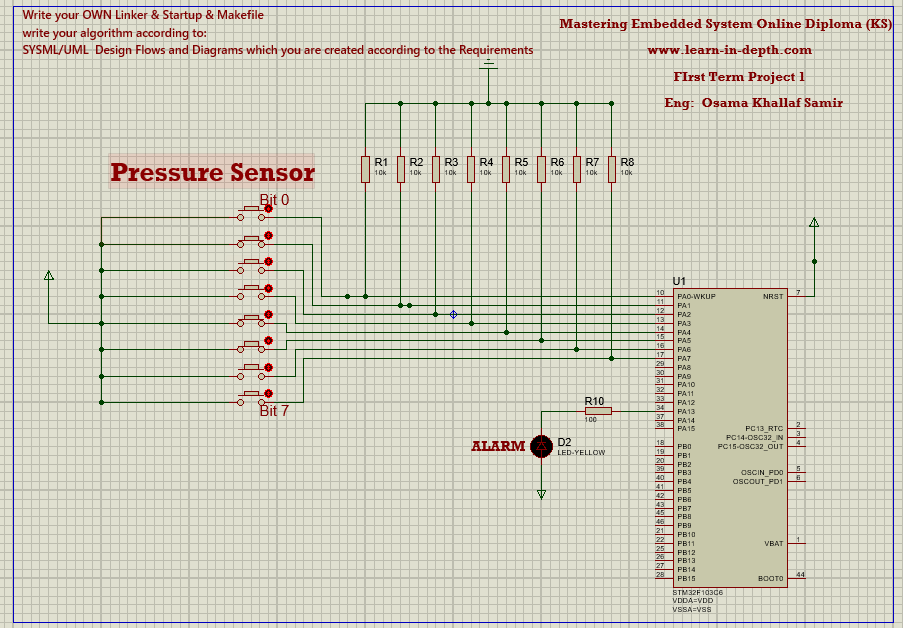
1. mapFile



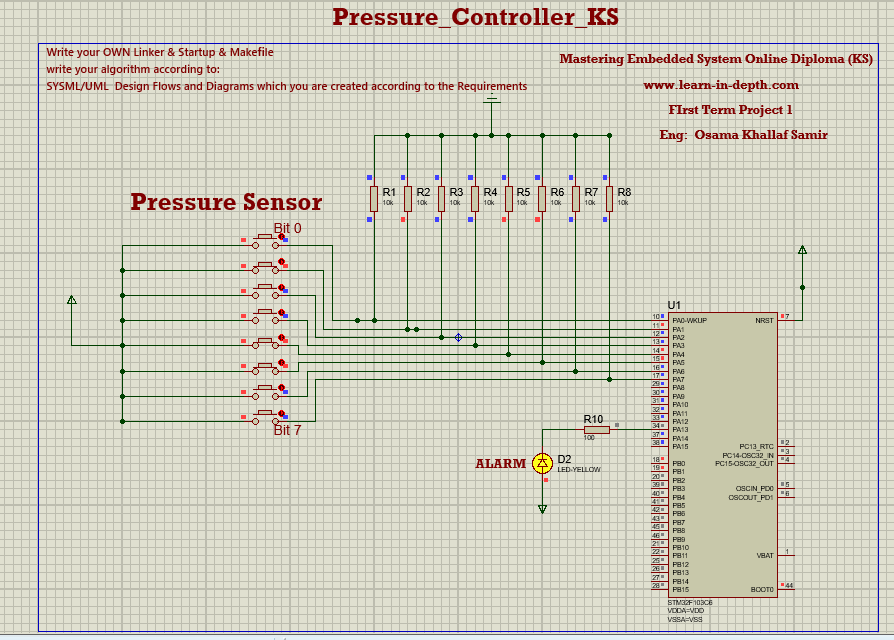
1. symbolTable



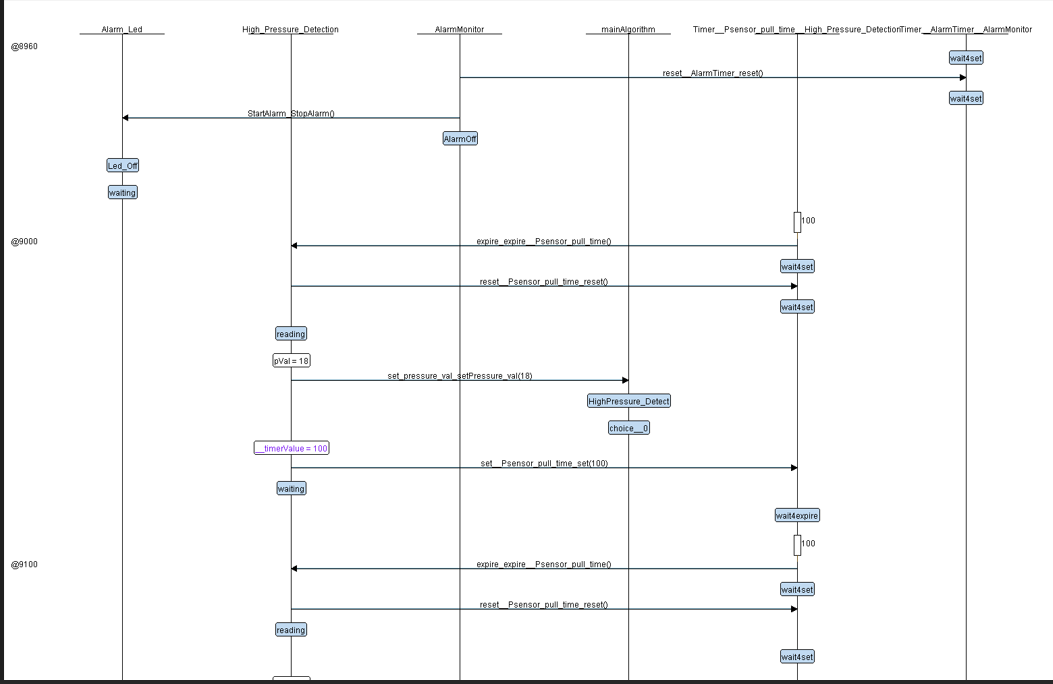
1. simulation before burn the bin file



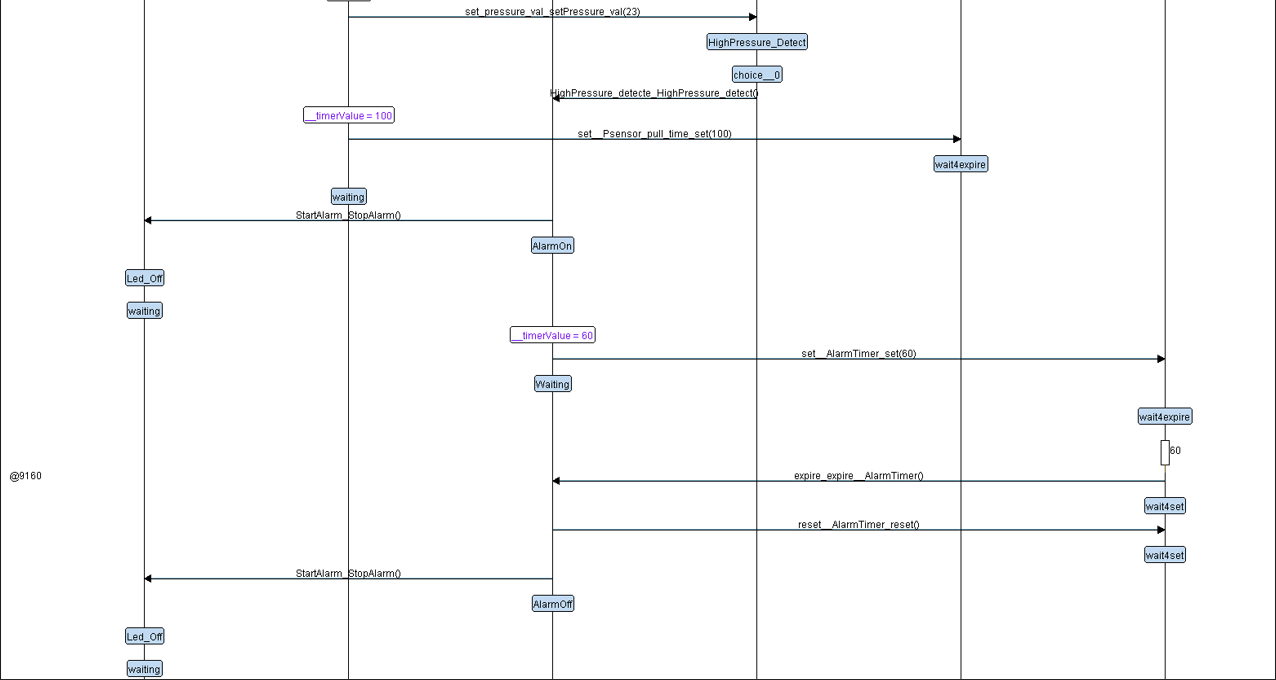
1. simulation after burn the bin file



1. interactive simulation1



1. interactive simulation2



1. interactive simulation3

