**Pressure Controller**

**Documentation**

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***1 – Introduction:***

A Pressure Controller informs the crew of airplane when the pressure is greater than 20 bar, and the crew gets the information by Alarm for 60 Sec.

**Assumptions:**

- The system setup and shutdown procedures are not modeled.

- The system maintenance is not modeled.

- The pressure sensor never fails.

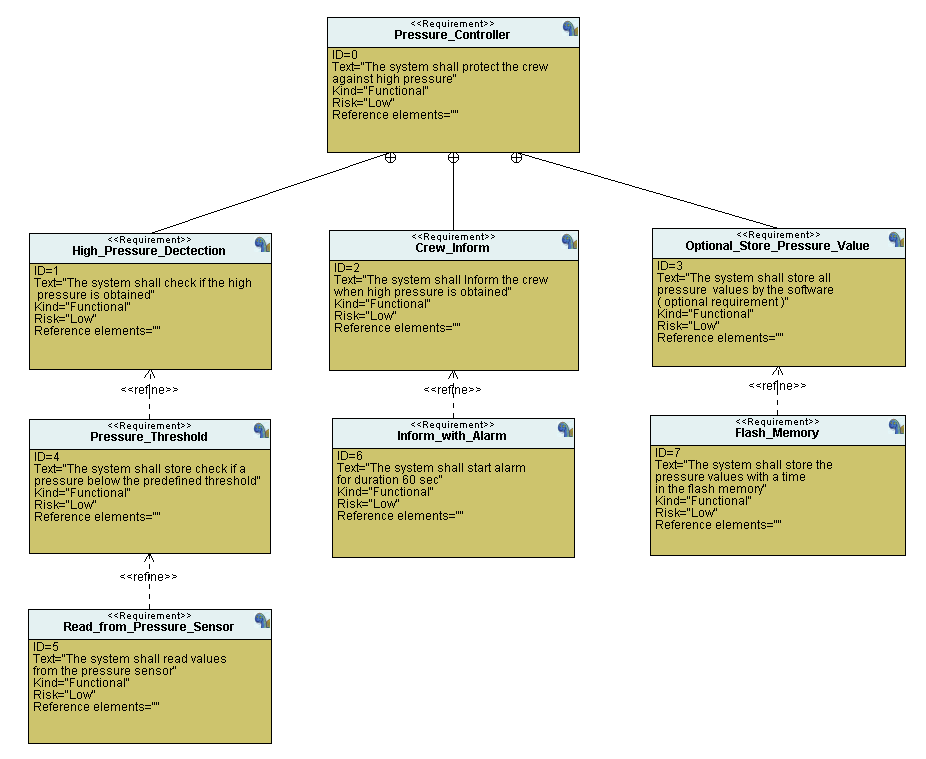
- The alarm actuator never fails.

- The system never faces power cut.

***2 – Methodology:***

- The System has multiple modules we need to integrated so we will choose a based model such as (V-Model) to help us in this integration

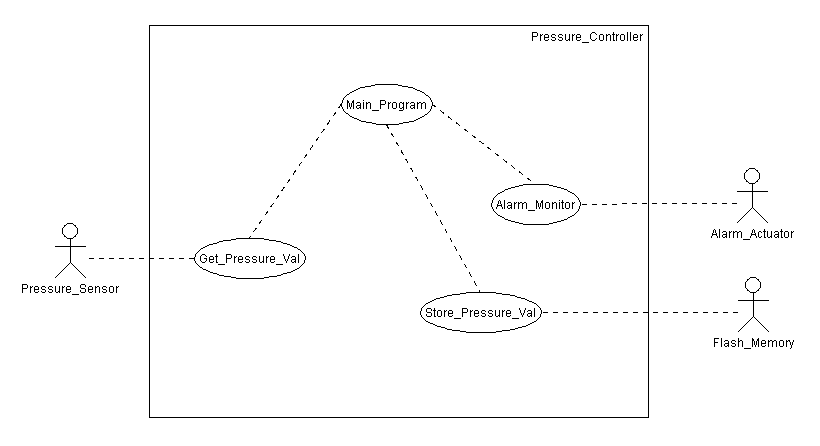
***3 - Requirement Diagram:***



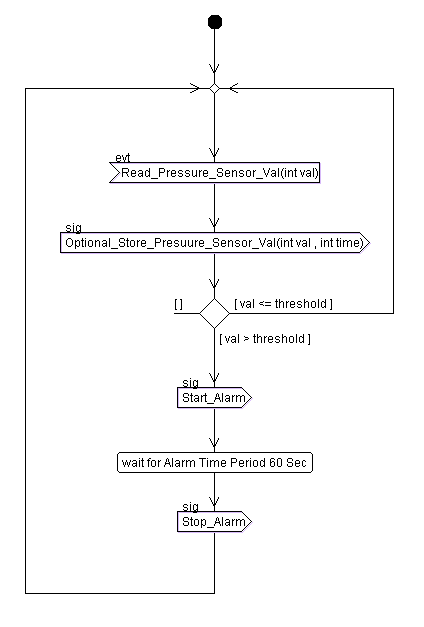
***4 - Space Exploration:***

For a Hardware we will use STM32 Board with a Processor Cortex-M3 and this board enough to run this application

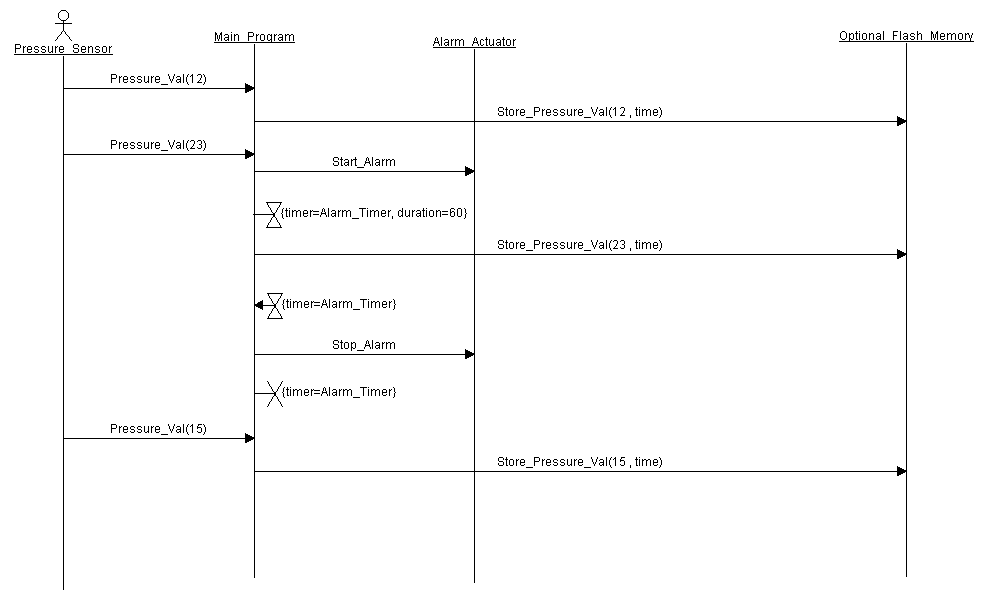
***5 – System Analysis: Use Case Diagram***



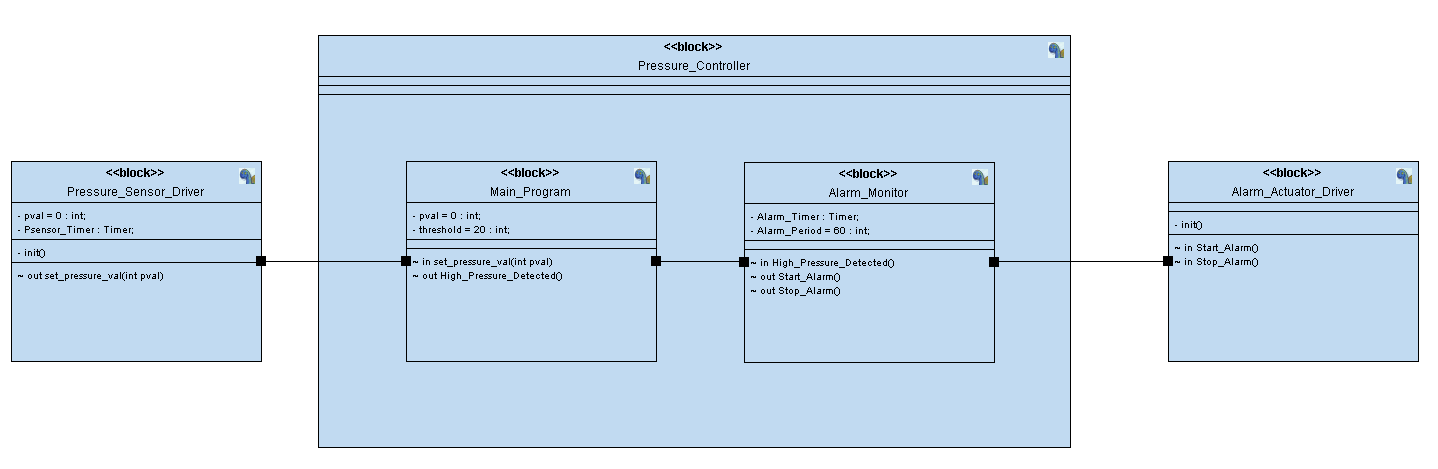
***6 – System Analysis:*** ***Activity Diagram***



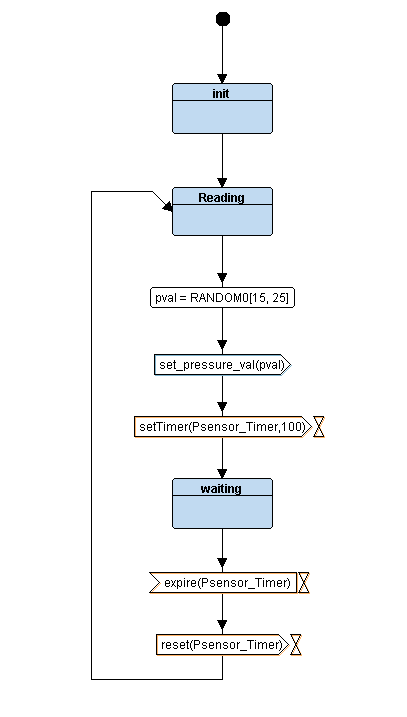
***7 – System Analysis:*** ***Sequence Diagram:***

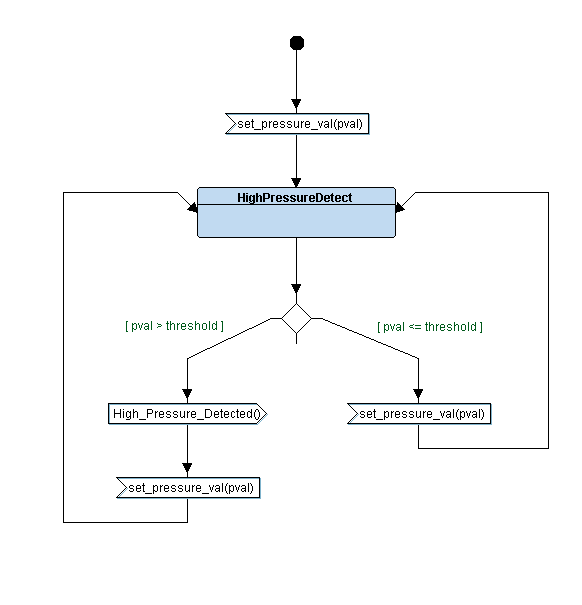


***8 – System Design:***

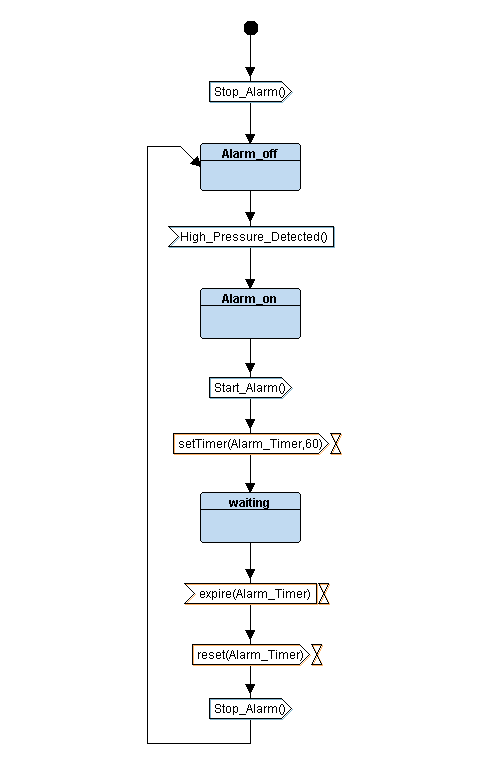


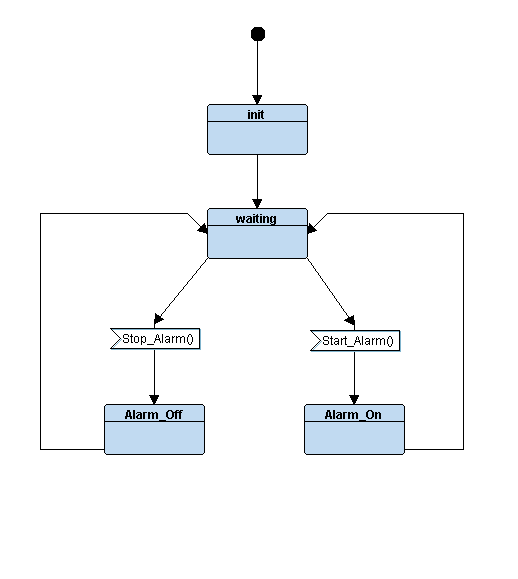
***Pressure\_Sensor\_Driver Module:***



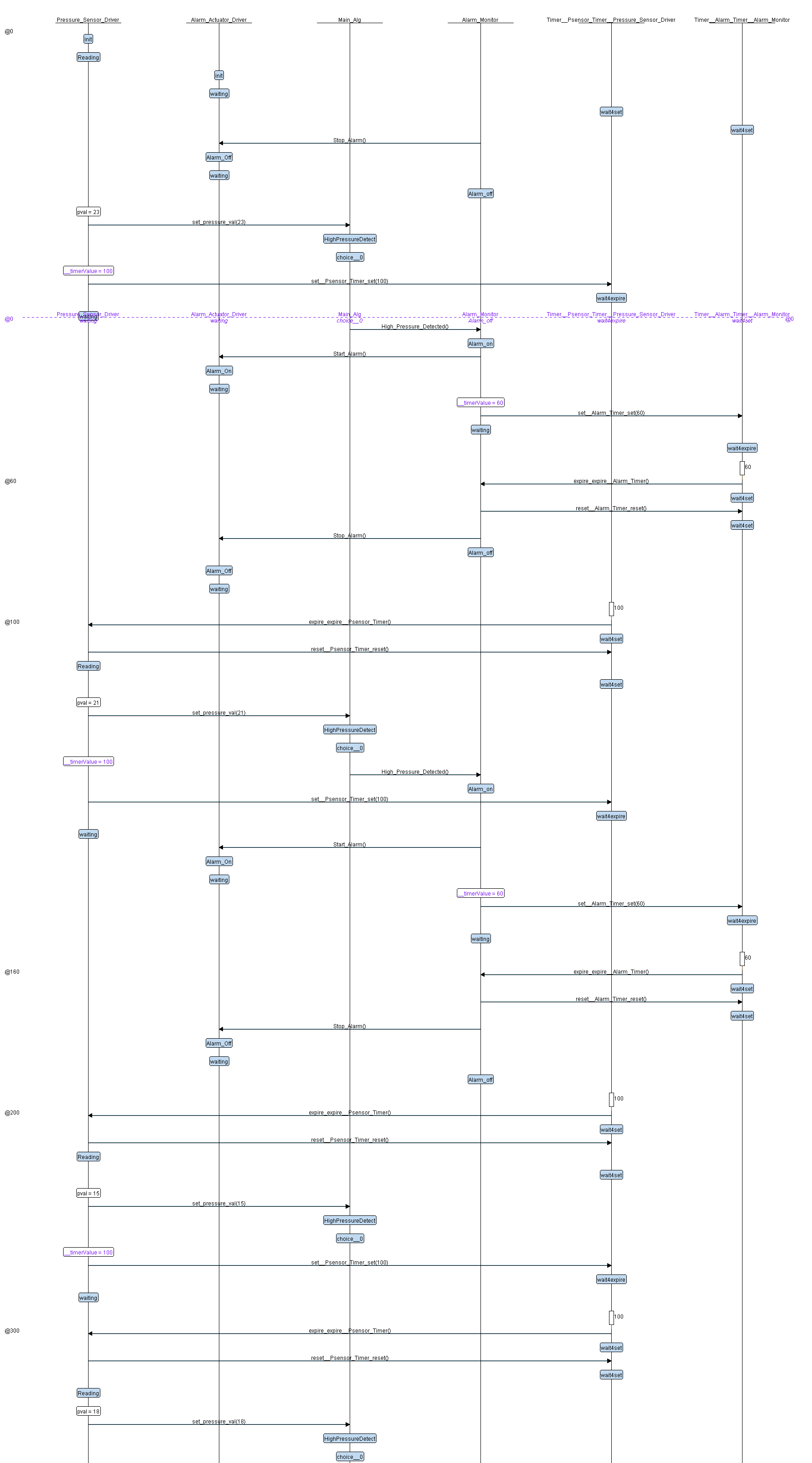
***Main\_Program Module:***

***Alarm\_Monitor Module:***

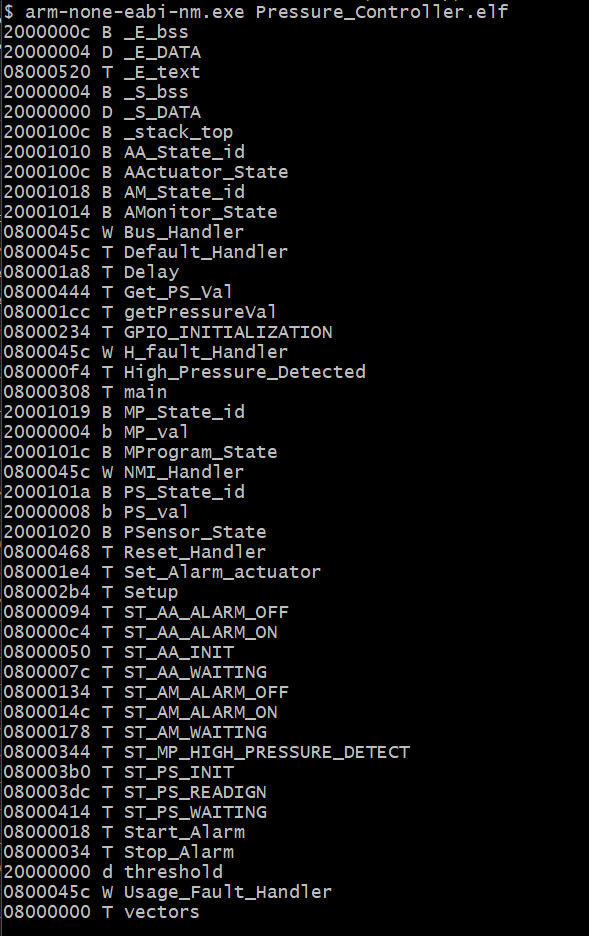


***Alarm\_Actuator\_Driver Module:***

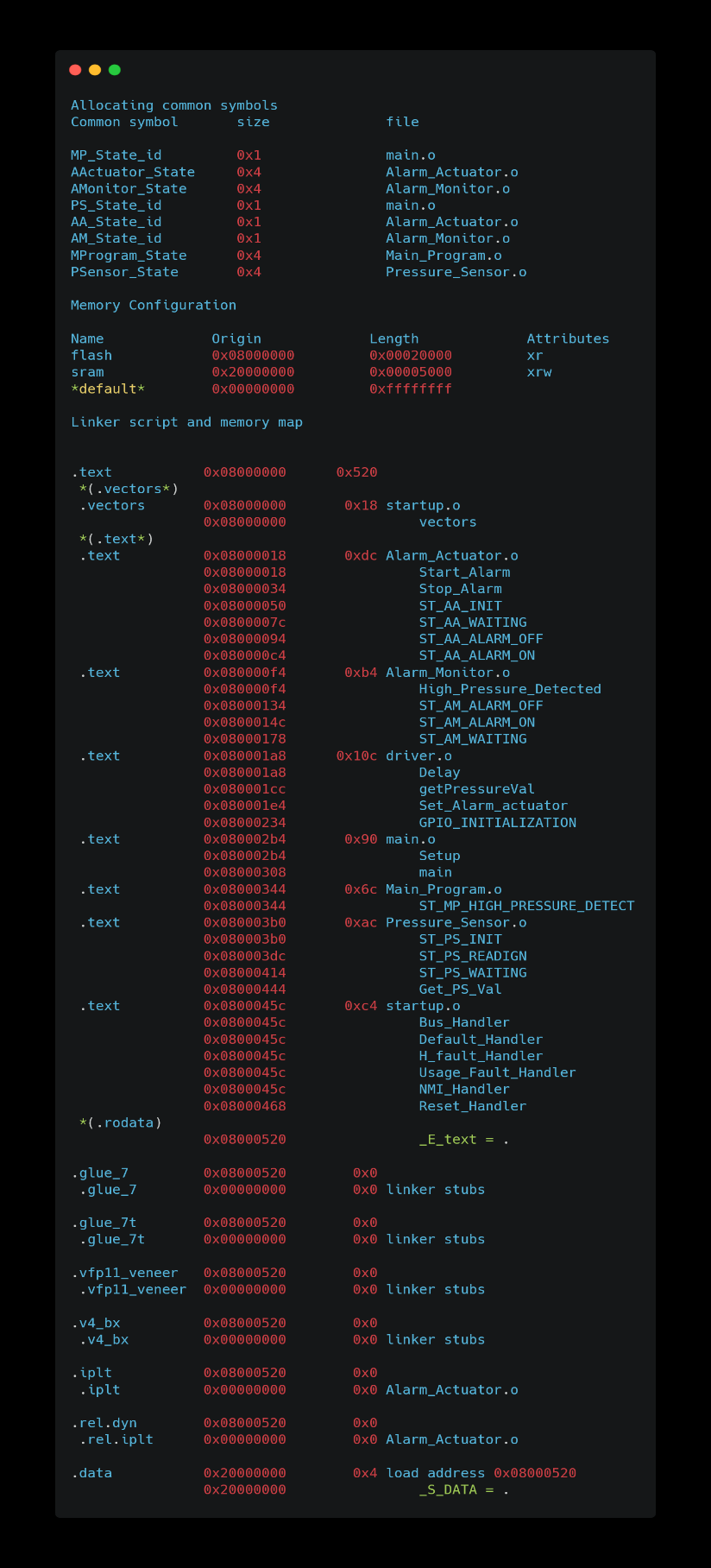
***9 - Verification and Validation:***

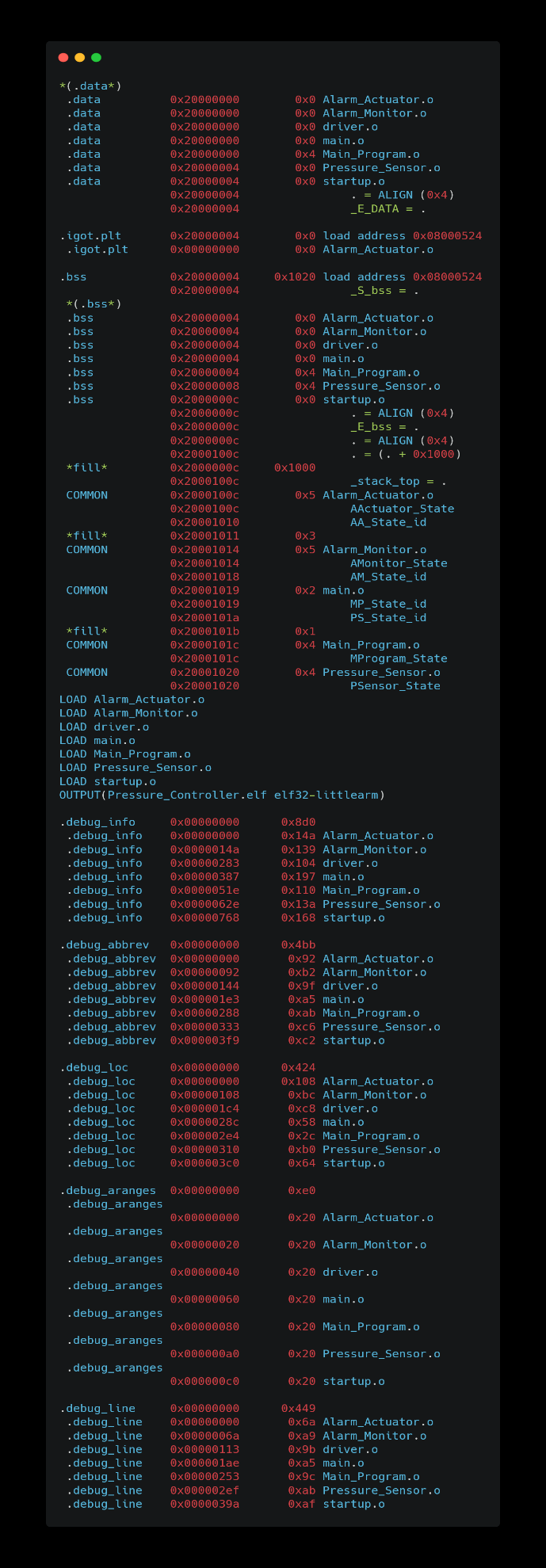


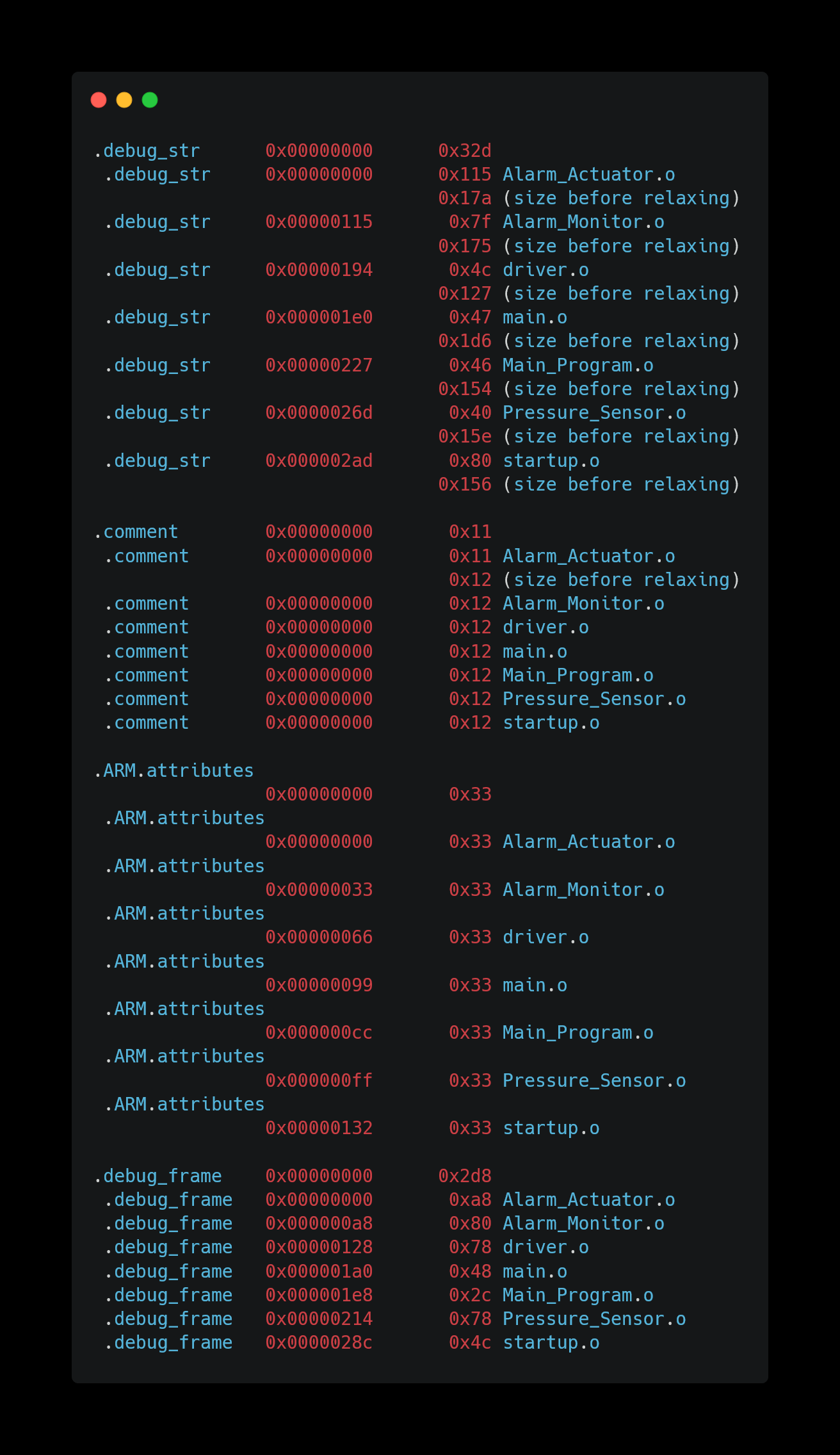
***11 – Analysis: Symbol Table:***

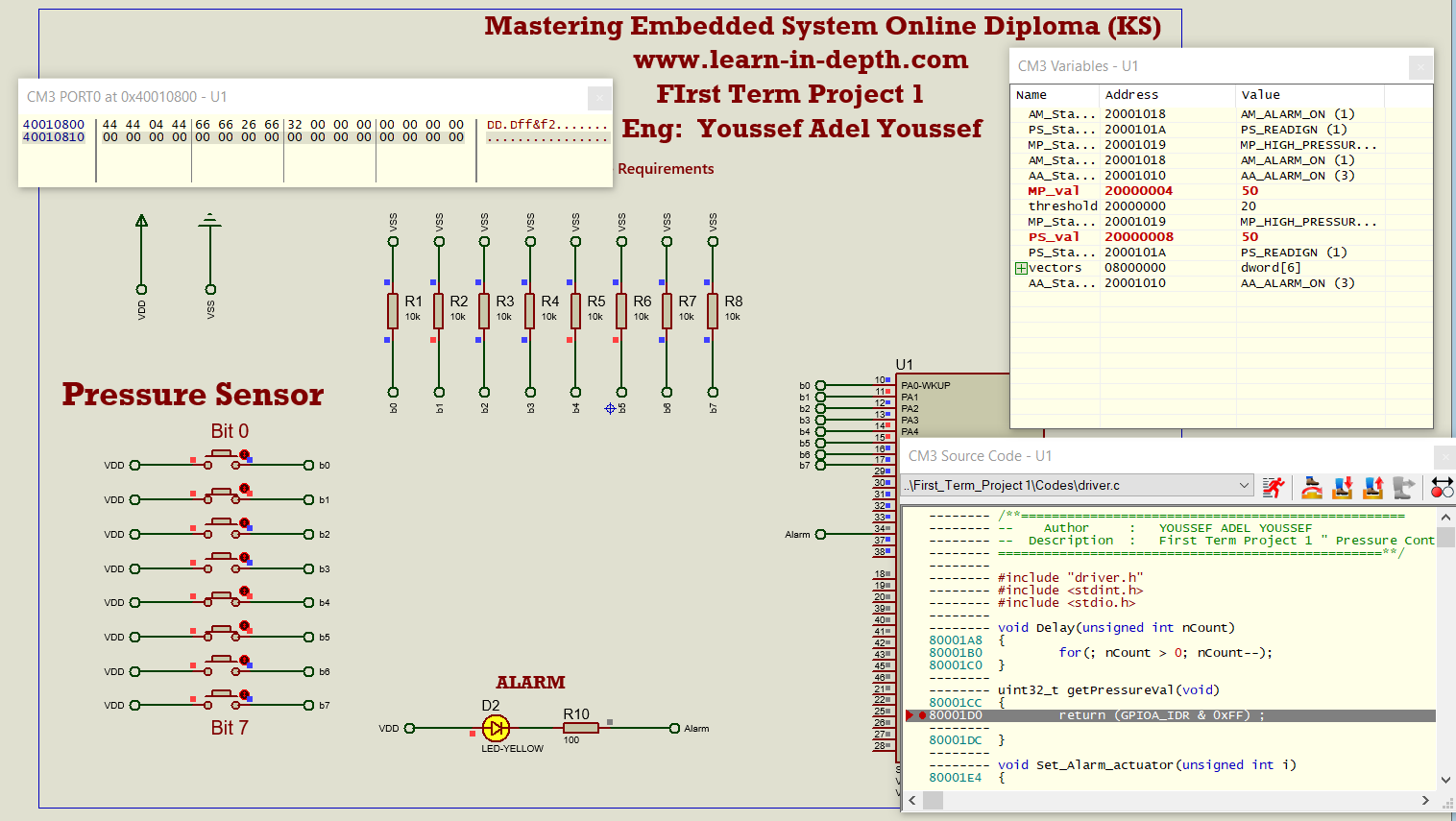
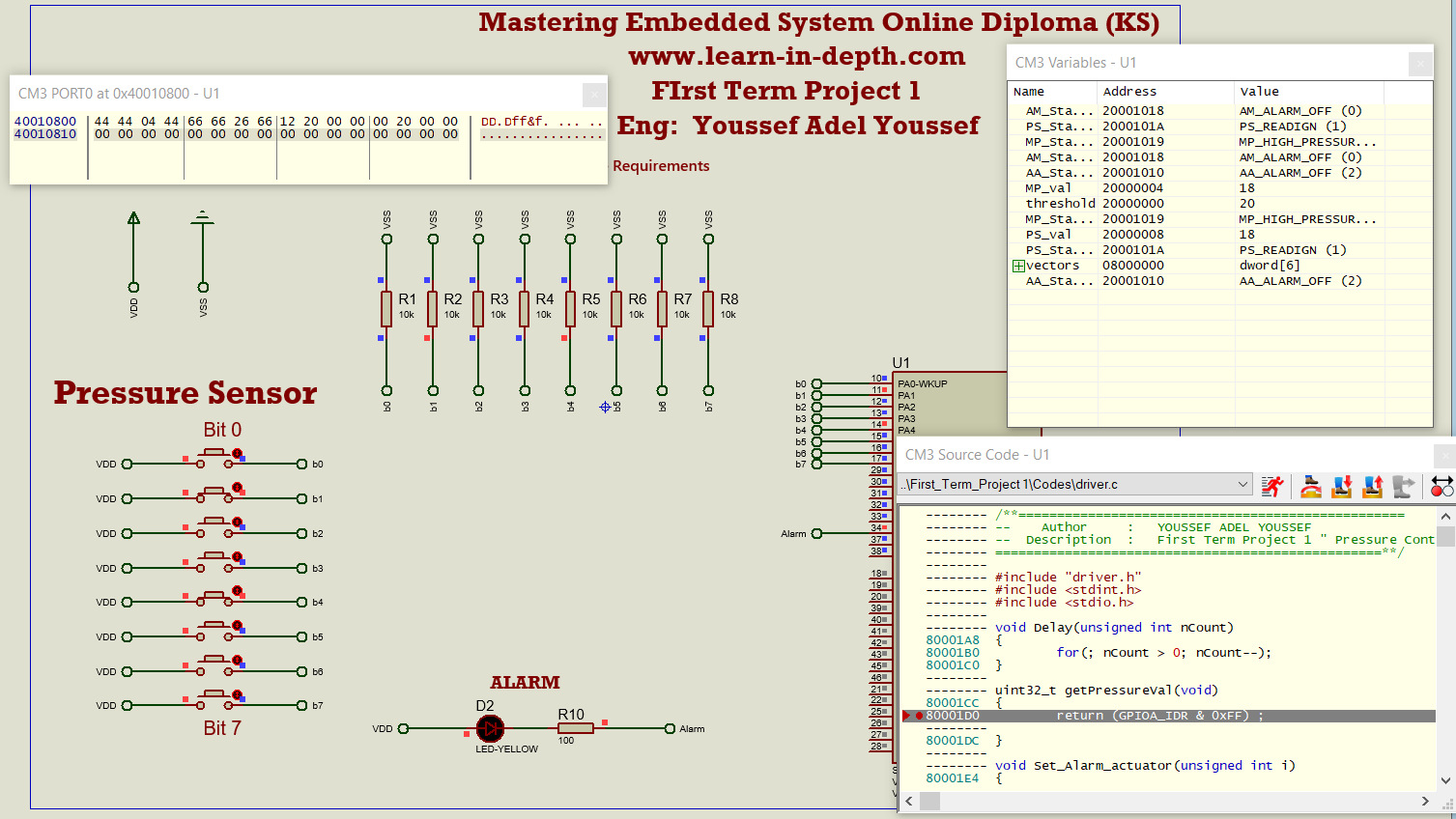


***Map File:***







***12 - Simulation:***