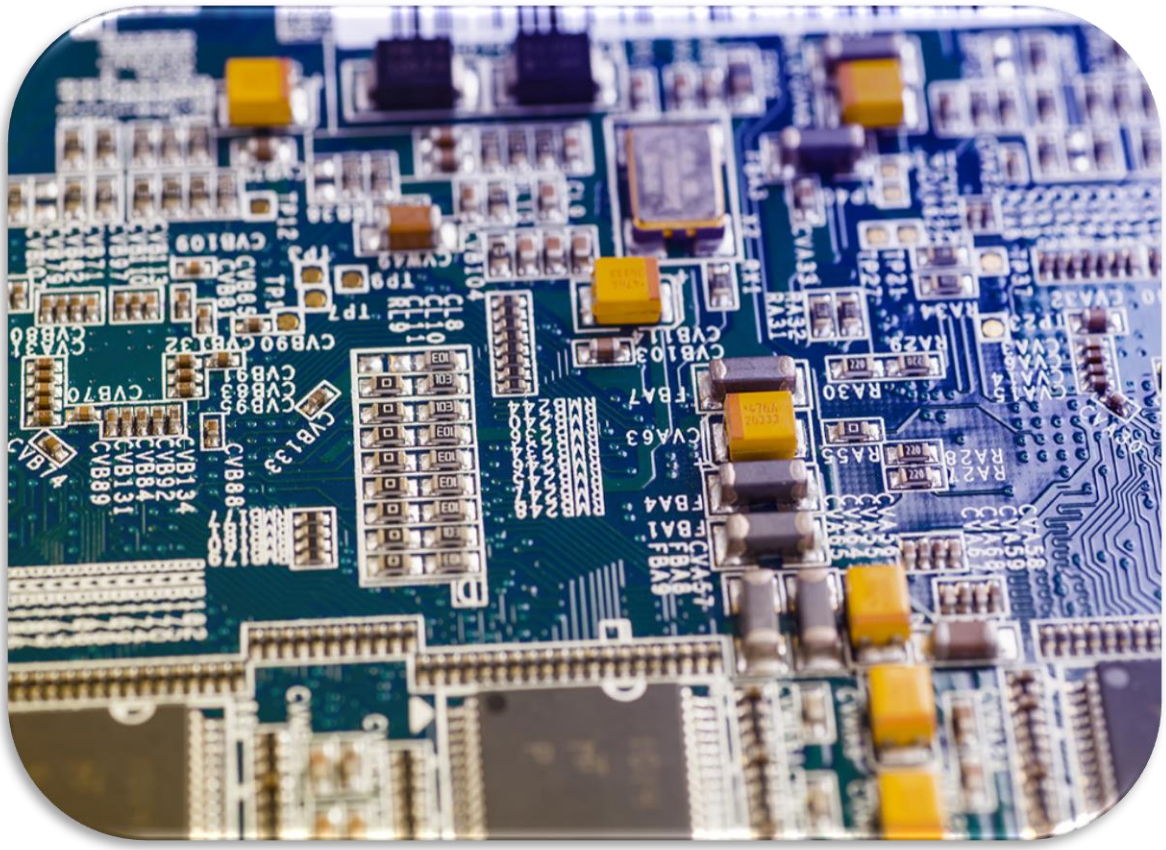

Laboratory activities

LAB NUMBER TWO
GROUP NUMBER FIVE

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Linnaeus University

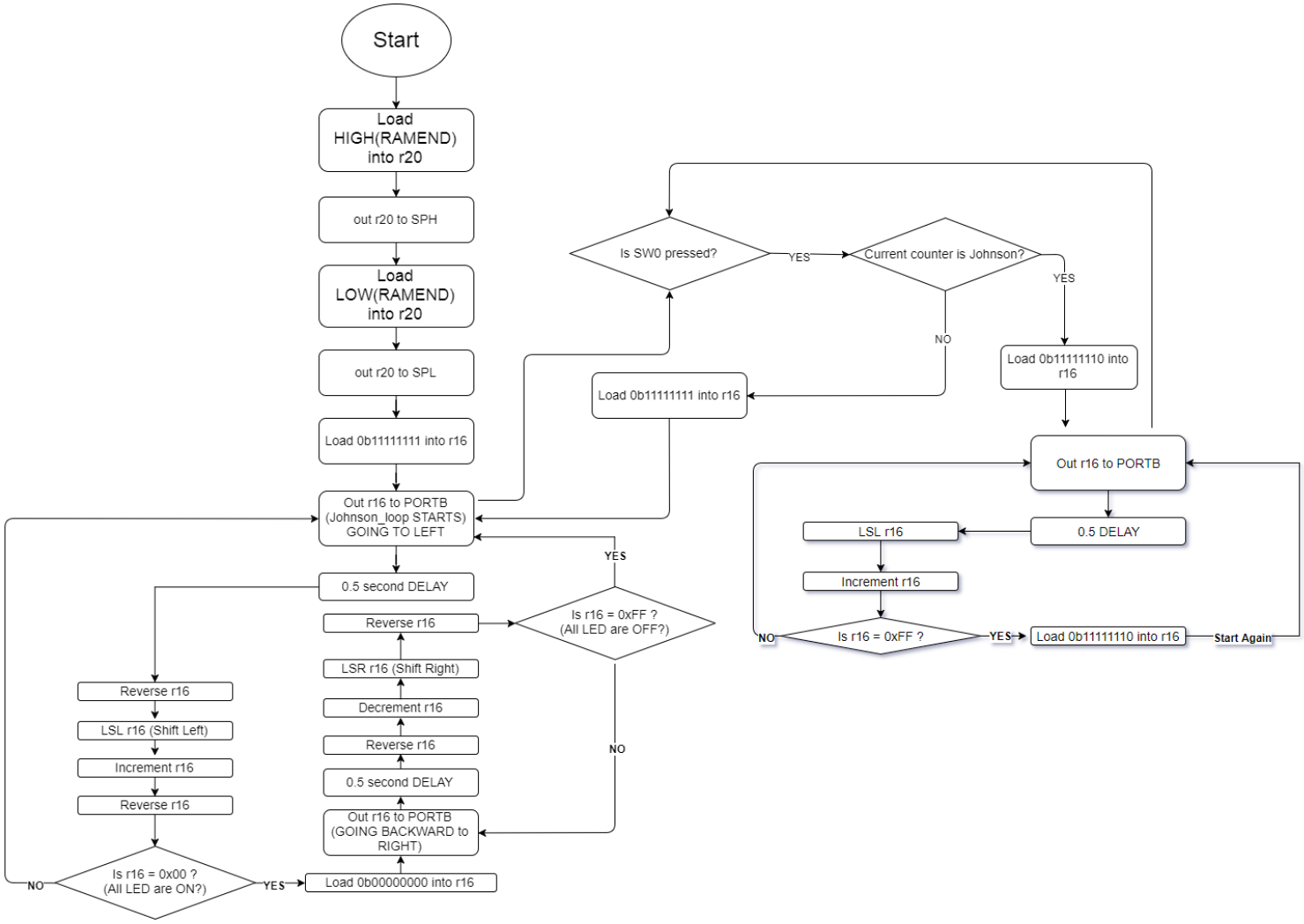
Let's get started for LAB TWO!

By opening the ASM files you can find comment in front of each line which can describe everything. Here I will focus on "Flow Charts".

By comparing the code, comments and flow charts, it can be clearer to understand how each task is working. PNG (Flowcharts) files are also included into the main folder.

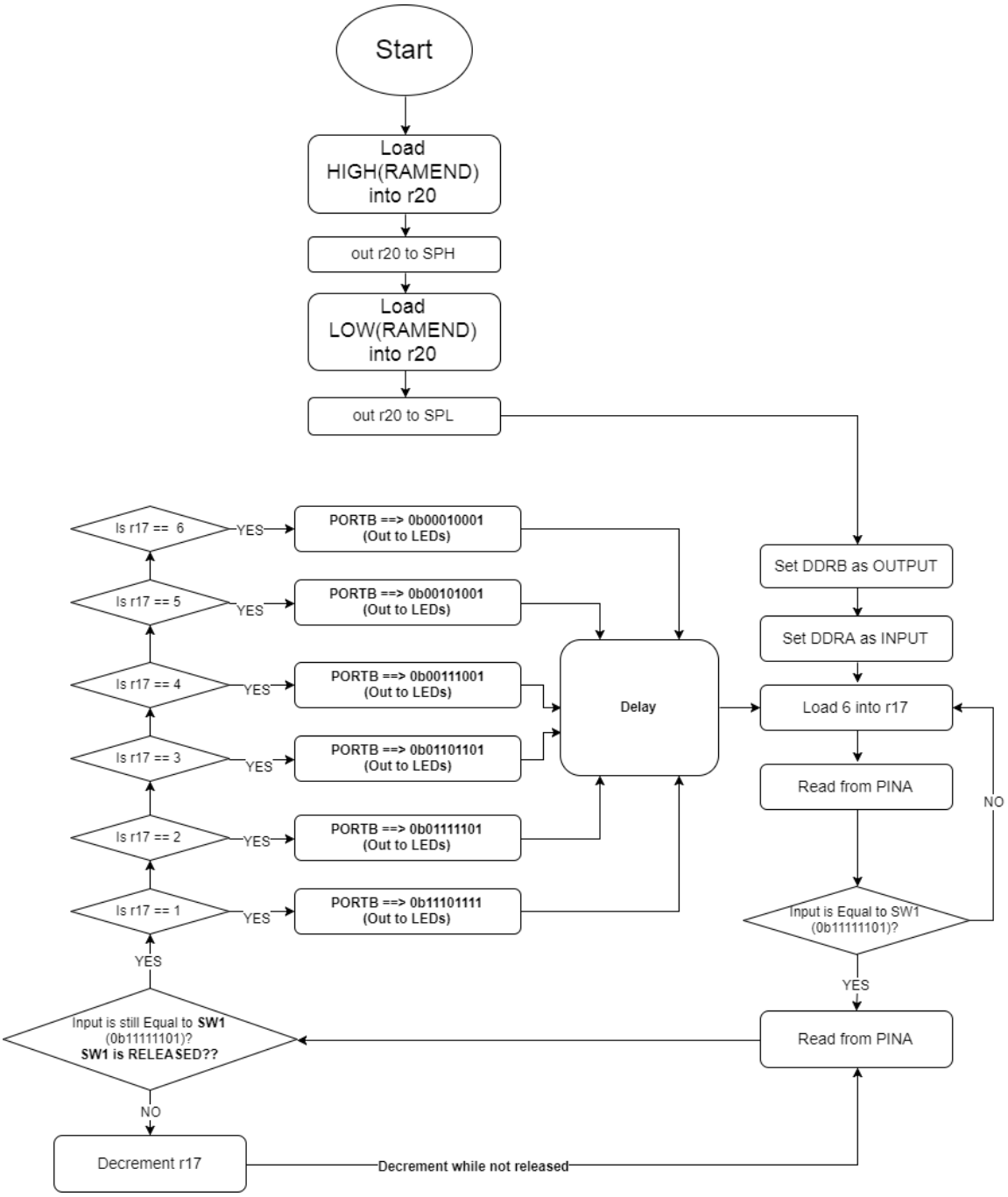
Task 1:

In this task, while the **Johnson Counter** is happening, if the user press the SWITCH ZERO a subroutine within the **Ring Counter** will be called and the program will switch into that subroutine. This also will happen vice-versa form one counter to another counter. So the flowchart in each counter varies and will be different algorithms to run.



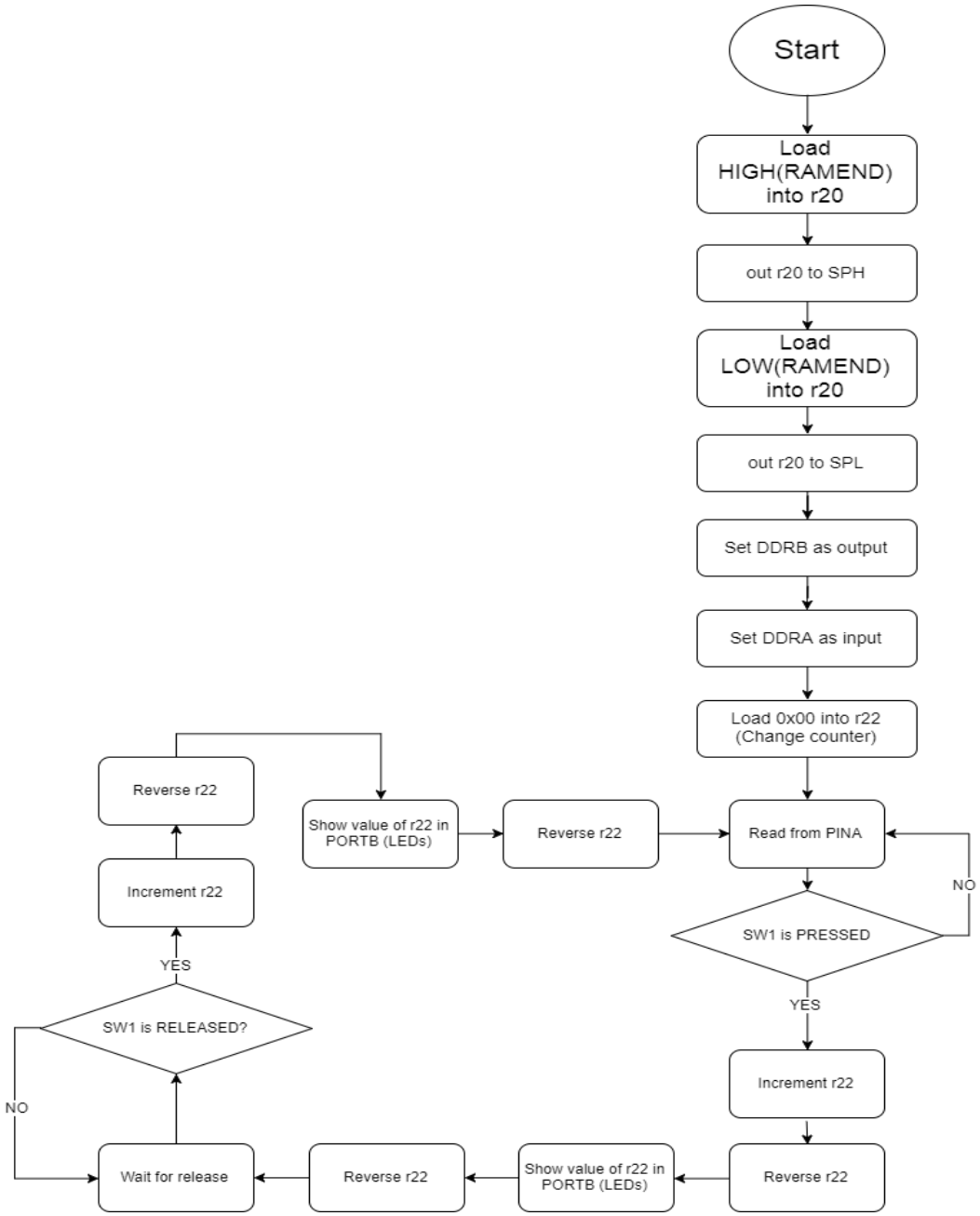
Task 2:

In this task we have to keep the button and while we are keeping the button the value or the possibilities of dice will be decremented from 6 to 0, and once we release the button the value can be considered as a random value because we cannot feel the delay between each iteration. Then the value will be compared from six to zero and the appropriate binary number will turn on the specified LEDs. Dice LEDs has been shown in the Laboration_2.



Task 3:

In this task we have to count the release and pressing a Switch, also we have to straightly show the result as an output to LEDs. For example, once we pressed the SW1 button then it should count once and out it to PORTB at the exact time and when we released it the counter should be increased and also shown on LEDs as the sum of all changes value.



Task 4:

In this task the number that have assigned to timer is equal to milliseconds and every time we call the delay, inside the delay we decrement the value of timer until the timer become over. If we say timer is 500 milliseconds, it means that the delay subroutine should be called 500 times if the delay is based on one milliseconds. This delay can be called after each LSL which can change the delay of ring counter.