**CAL - Initial plan for assembly project**

1. Put a timer (before starting and between two sequence)
2. Find how to turn on a random led
3. Use register to save the sequences
4. Make a real-time comparison between the random sequence and user input
5. Indicate wrong input if the user made a mistake
6. If the wrong input, then try again (how many times can the user retry)
7. Indicate if the input is correct of the sequence
8. Indicate whenever the game ends.
9. For the timer we can use this delay function => 
10. Turn on a led random(the random sequence has been changed to fixed values)

There is 8 LEDs on the STK600 .

How it will works

Turn on the STK 600

The AVR board will blink all LEDs 5 times and start the game

Wait few seconds

A led blinking randomly (fixed sequence)

Wait until the user press a button (user choice)

User must choose where the button blinked

If good answer

Wait for indication of win

(Next turn)The 1st led will blink again and a new led will blink (it can be the same led)

Wait until the user press a button (user choice)

User have to choose where the button blinked first and the next in the sequence

If good answer (Next turn) 3rd led will.. etc..

If wrong answer

Make all the LED blinking 3 times to show he made a mistake

Wait

Start over

If game over (all the led blink for 5 sec??? for example) and it’s finish

If win make the led blinking infinite, restart to start over.

Function & variable needed

Delay / Timer

Variable to store what the user press (array)

Variable to store which led blinked (array)

Variable to inc the number of led

Variable to dec the number of lives

Function good answer

Function bad answer

Function mistake

Function game over

Function game win.

Push a value

Add a delay max 1 sec

Press a button

Compare the switch w/ stack

If correct … blinking thing

and next // how many led will blink until the end of the game ?

If false blinking thing =>

pop the value (no retry) and restart

## Test

In order to have the best test case it is needed to “break” the system and test all user functionalities.

1. Test of switch:
2. Test of start:
3. Test of correct sequence:
4. Test of wrong sequence:
5. What happens if more than one switch is pressed at the time?:
6. Use the simulator to see how the array is working, does it behave correctly?:
7. Test of end game: