| Mark | 1/1 |
|---|---|

| Team name: | *A1* | | |
|---|---|---|---|
| Homework number: | *HOMEWORK 1* | | |
| Due date: | 01/10/23 | | |
| | | | |
| Contribution | NO | Partial | Full |
| Monti Pietro | | | *x* |
| Moretto Alessia | | | *x* |
| Pallotto Francesco | | | *x* |
| Perna Alessandro | | | *x* |
| Ventura Ludovico | | | *x* |
| Notes: | | | |

| Project name | Basics for the project "Play a song" | | |
|---|---|---|---|
| Not done | Partially done (major problems) | Partially done (minor problems) | Completed |
| | | | *x* |

Explanation:
We successfully completed the homework.

**Part 1a:**

At the beginning we found out that the green LED is connected to the pin A5, whereas the microphone to the pin A8. In HAL_GPIO_EXTI_Callback function in main.c we wrote the code to check if the pin A8 state is 1: in that case we use the HAL_GPIO_TogglePin function to change the logical value of pin A5, in order to switch it on or off every time the microphone senses a snap of fingers.

**Part 1b:**

At first, in the GUI, we configured channel 1 of timer 2 as a PWM generator. Then, knowing that the internal clock frequency is 84 MHz, we set the prescaler at 8400-1, the counter period at 10000-1 and the pulse at 5000-1 in order to get a 50% duty cycle square wave (according to the formula $DC = \frac{\text{CCRx+}}{ARR+1} = 50\%$). After that, we connected the pin A5 to the channel 1 of timer 2 in the GPIO settings.
From the code point of view, we used the HAL_TIM_PWM_Start function, with timer 2 and channel 1 information as arguments.

Professor comments:
Ok good! I suggest you, for the next report, to explain a little bit more in detail, also reporting some line of code with the most important functions you used.
FV