***Note to Shaker:***

***On blackboard there is the slideshow/pdf file of the 2nd week of the project that explains how to write a report. Please make sure its in right template. %66 of the score we will get will be based on the report. Only %33 is code.***

***Please read our functions and convert every single MATHEMATICAL expression with an equation editor like Mathtype.***

**Fade in & Fade out:**

Fs is the sample amount in 1 seconds of signal.

My fade in and out functions calculate the amount of samples needed to be modified in order to fade in or out for 5 seconds . Wav files shorter than 5 seconds will get %20 of their length faded.

1st step: Fs\*Duration = amount of samples we are going to use for fading

2nd step: creating a scale of values from 0 to 1 in an amount of 1st step value

3rd step: applying fade by multiplying the partial signal array with our scale. First sample gets multiplied by 0 and the last one in the array gets multiplied by 1. So we get a ladder based fading.

-How to implement these different functions in Matlab?

A: each explained in their respective topic

-How to implement the user interface in Matlab?

A: a file is dedicated to show the available functions as a list of commands and takes inputs numbers as keys to call functions. Like printf / scanf in C language

-How to integrate user interface and the functions into a working tool?

A: By creating custom functions and replacing the blank function from the user interface file.

-Which additional function would be eligible for implementation (if any?)

A: Normalize RMS is added as an extra function.

-How to test the tool?

A: By using the Matlab editors’ built in step by step analyzer we can test our tool. Also we can load a bunch of Wav files in different length and signal shape and observe the outputs.