BIRZEIT UNIVERSITY

Faculty of Engineering and Technology
Electrical and Computer Engineering Department
COMMUNICATION SYSTEMS, ENEE3309
Dr. Mohammad K. Jubran
Final Project

In this project you are required to write a python (or any other programing language) or Matlab script (or Simulink) to demodulate five audio signals from an FDMA signal.

Procedure:

1. Read the FDMA signal from **FDMAMixedAudio.wav** file (.wav format),
2. Plot the FDMA signal in the time domain and frequency domain,
3. Visually, estimate the bandwidth of each of the five signals,
4. Visually, estimate the carrier frequencies that were used to modulate the five signals,
5. Visually, determine the modulation technique for each of the five signals,
6. Demodulate the five audio signals from the FDMA signal,
7. Plot the each of the audio signals in the time and frequency domain,
8. Write each of the audio signal into a separate audio file (.wav format).
9. Play each of the demodulated audio signals. You may do this as part of the script or by using any player in windows/Linux.
10. Revise your selections of parts 3, 4, and 5 if the results of part 7 and 9 are not proper (quality of any audio signal is bad, the spectrum of any audio signal is not correct, …).

Project discussion will be on Wednesday 15/6/2022, Thursday 16/6/2022, Saturday 18/6/2022, and Monday 20/6/2022. Exact time slots will be decided later. No report is required. Work individually.