LABORATORY 3
MODULATION AND DEMODULATION OF AN FM SIGNAL

Main Goal:

- Implement a real FM modulator and demodulator.

Specific objectives:

- Transmit an audio signal using GNU Radio and the LimeSDR platform.
- Receive an FM broadcast signal using GNU Radio and the LimeSDR platform.
- Decode the FM broadcast signal using Python, SciPy and NumPy.

In this laboratory we will modulate and demodulate an FM signal using GNU Radio and Python. For this purpose the following files are needed:

1. Transmission:
    a. FM_transmitter_wav_signal.grc and Perfect Strangers.wav
    b. FM_transmitter_voice_signal.grc
2. Reception:
    a. FM_receiver.grc
    b. LimeSDR FM Demod.ipynb

QUESTIONS:

1. Write the difference between the NBFM and WBFM Transmit blocks in GNU Radio.
2. Design an FM Demodulator that decodes an FM stereo signal in GNU Radio.
3. Explain how the frequency discriminator works.