EXPERIMENTS

As part of our dataset we decided to use classical songs which we then converted, for simplicity, to mono channel wav files sampled at 16KHz with the usage of ffmpeg.

We decided to perform the experiment on the following scenarios:

a) Scenario 1 - We used 25 classical songs played by orchestra (advanced examples) where 20 songs were later used for training and 5 were used as seeds when generating music
b) Scenario 2 – We used 22 piano songs composed by Peder B. Helland (simple examples) where 18 songs were used for training and 4 as seeds

In the preprocessing we divided our songs into 0.25 seconds long pieces and converted them to frequency domains using Fourier transforms. Each frequency component consists of real and imaginary part. To avoid complex numbers we decided to unroll the vector as thus got an 8000 dimensional vector where imaginary values are appended after the real values.

The model was implemented with the usage of PyTorch library.

The following settings have been used during training and evaluation:

a) In GenerateData.py we decided to only take a 15 second sample from every song (-ls). In scenario 2 we also increased training size to 0.7 (-ts)
b) In TrainModel.py we set batch size to 20 (-bs) and number of epochs to 200 (-ep)
c) The rest of the parameters were left as default.

The results of our experiments can been in an appriopriate scenario folders.