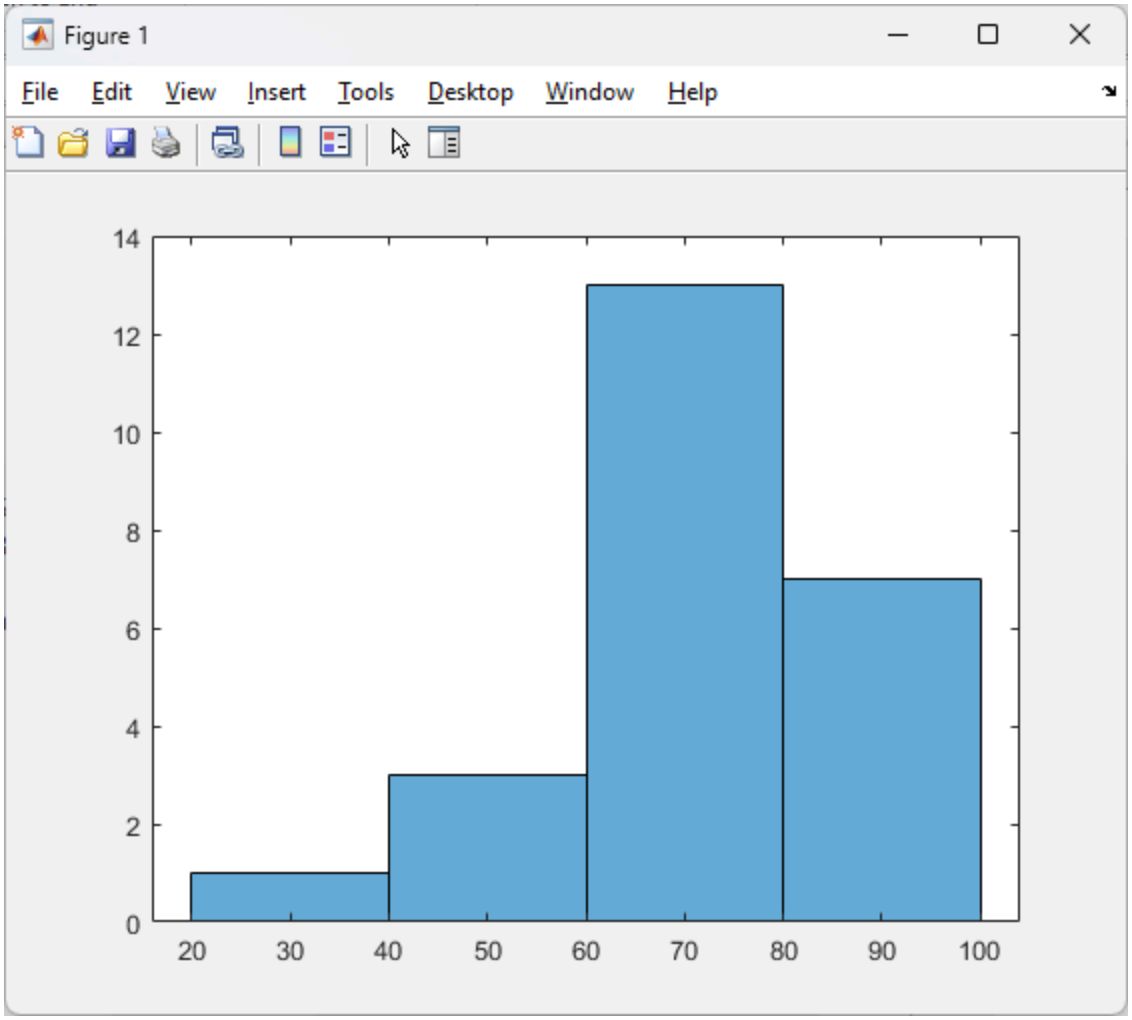
Question 2.

```
mean_data =

   71.8333


std_data =

   13.7467


within_1_std =

     0.6667


within_2_std =

     0.9583


within_3_std =

     1


std_probabilities =

     0.6667     0.9583     1.0000


norm_probabilities =

     0.6827     0.9545     0.9973


abs_error =

     0.0160     0.0038     0.0027

>>
```



Question 3.

1)

```
mean_data =

    0.0025


std_data =

    0.1962


within_1_std =

    0.7209
```

```
within_2_std =

      0.9420


within_3_std =

      0.9927


std_probabilities =

      0.7209     0.9420     0.9927


norm_probabilities =

      0.6827     0.9545     0.9973


abs_error =

      0.0382     0.0125     0.0046

>>
```

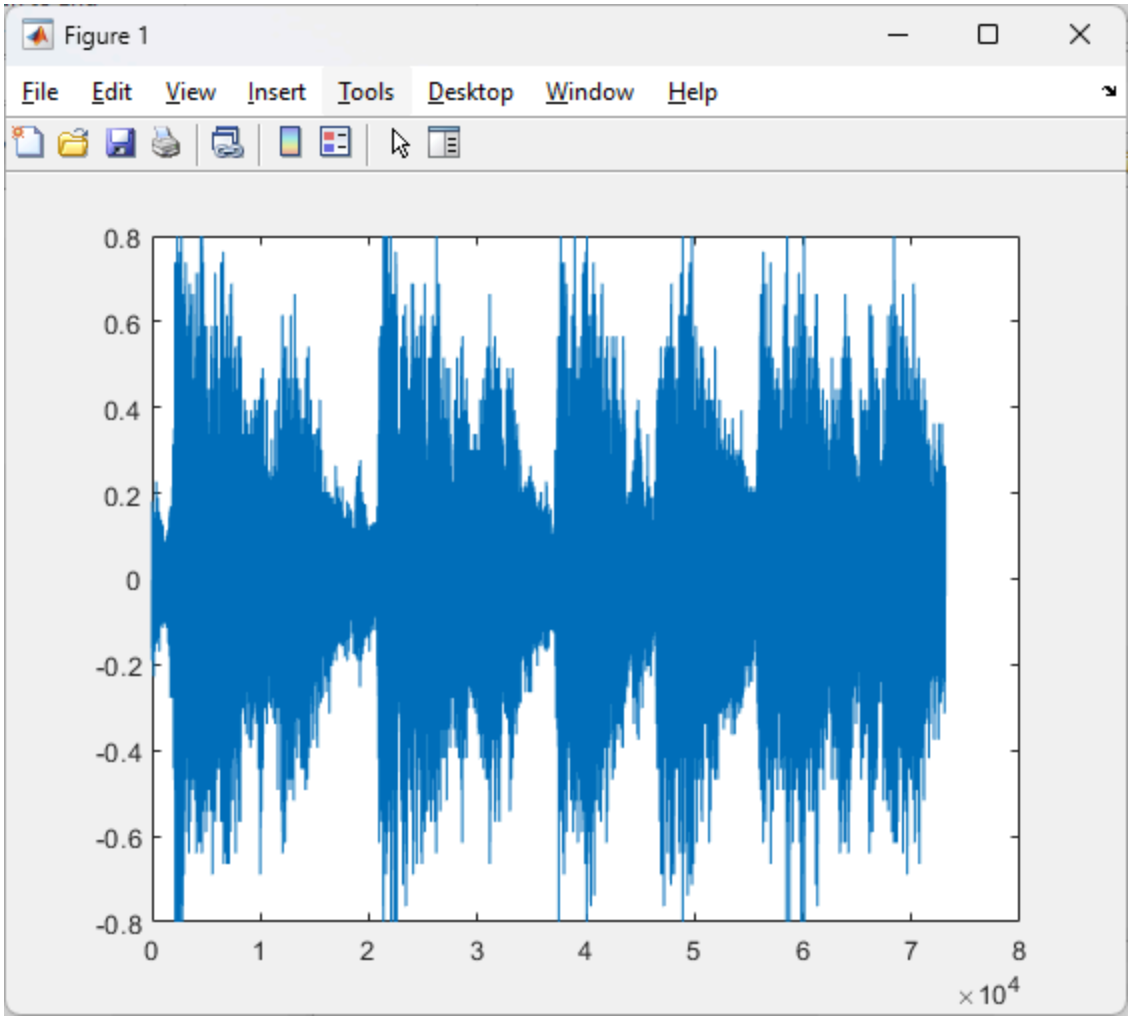


Figure 1
File Edit View Insert Tools Desktop Window Help
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0 1 2 3 4 5 6 7 8
×10^4

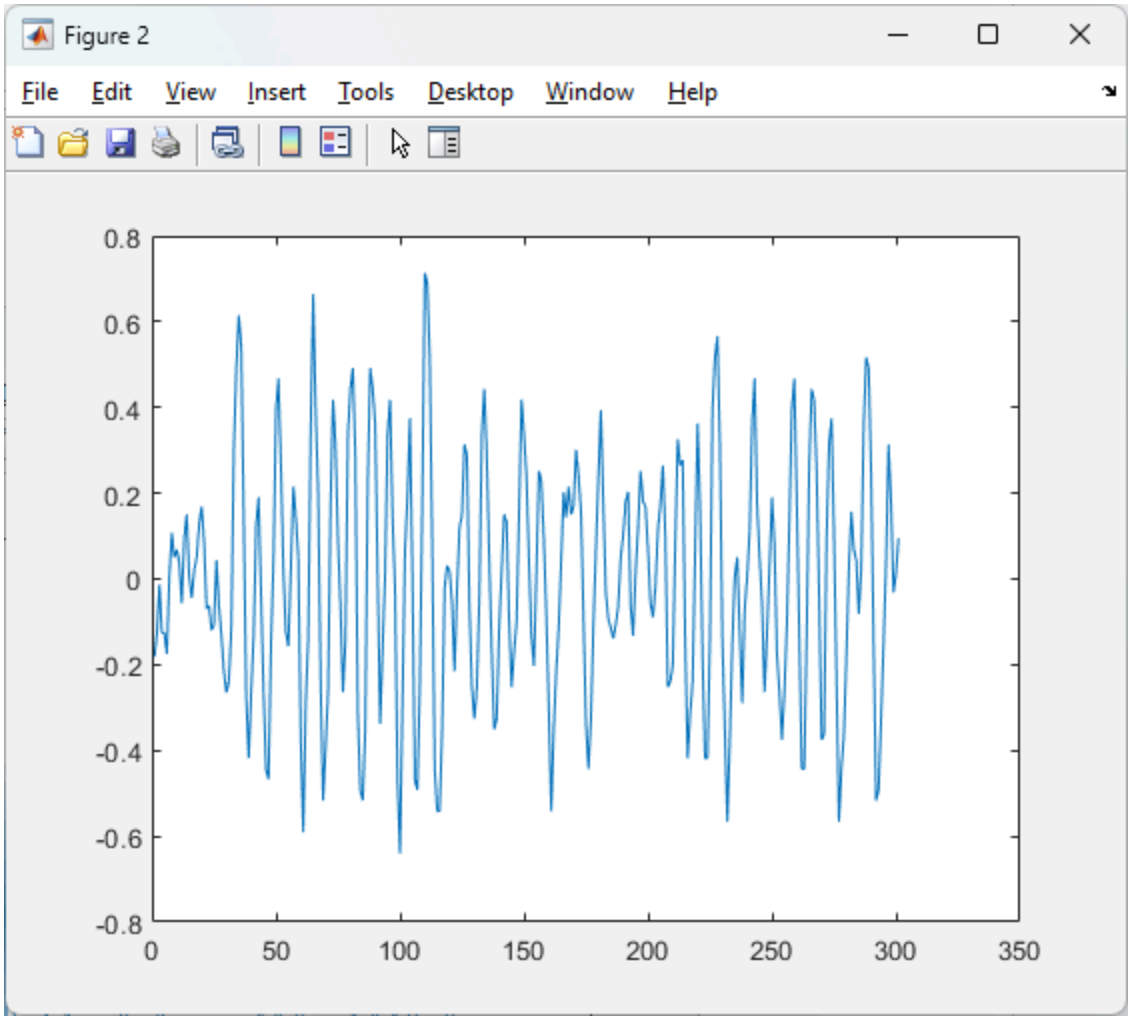
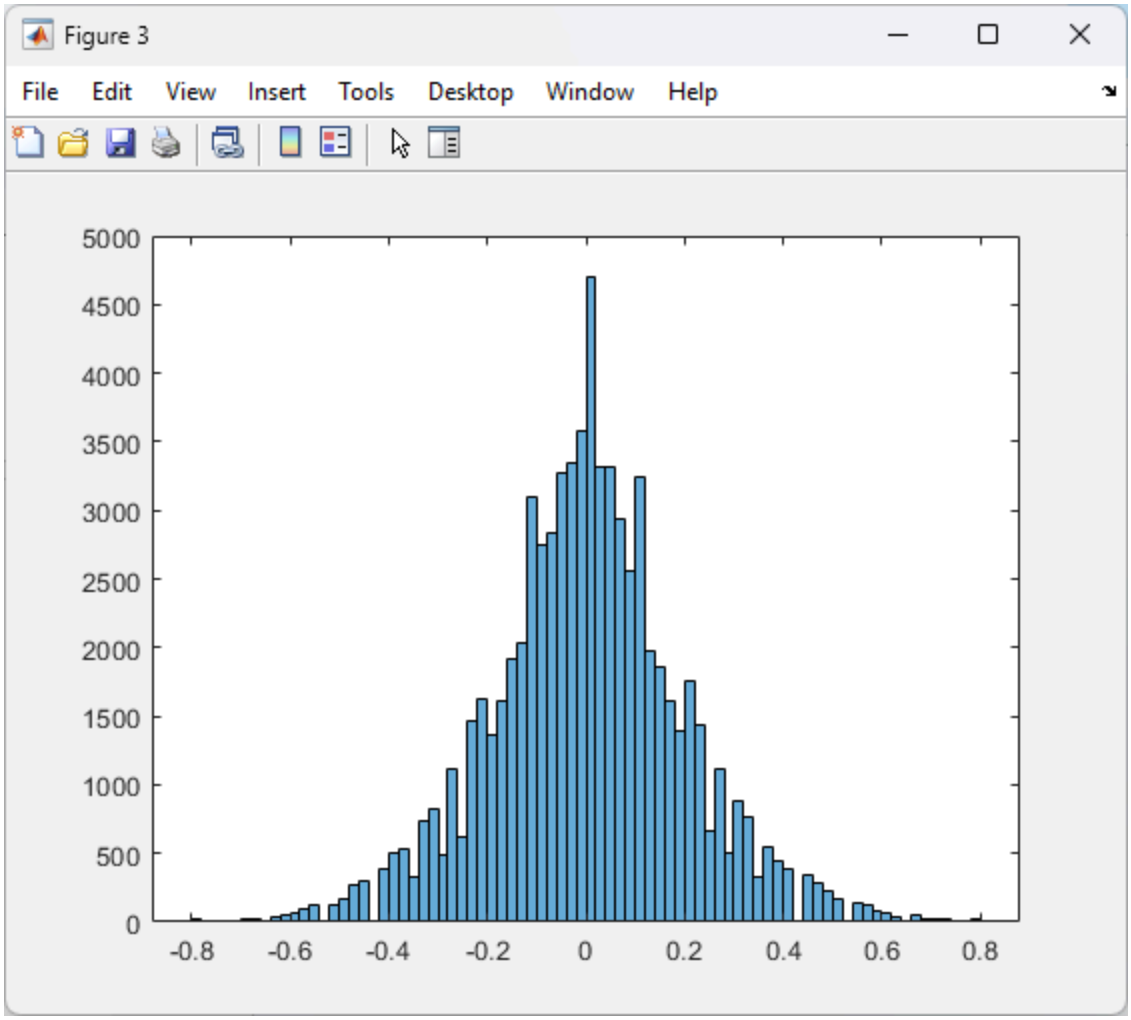


Figure 2
File Edit View Insert Tools Desktop Window Help
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0 50 100 150 200 250 300 350



2)

I think that the data from the audio sample can be modelled by a normal distribution better than the grade data as it is more symmetric in this case.

In general grades are more likely to follow a normal distribution than audio files so usually I would assume a normal distribution would be used for that instead of the audio file.