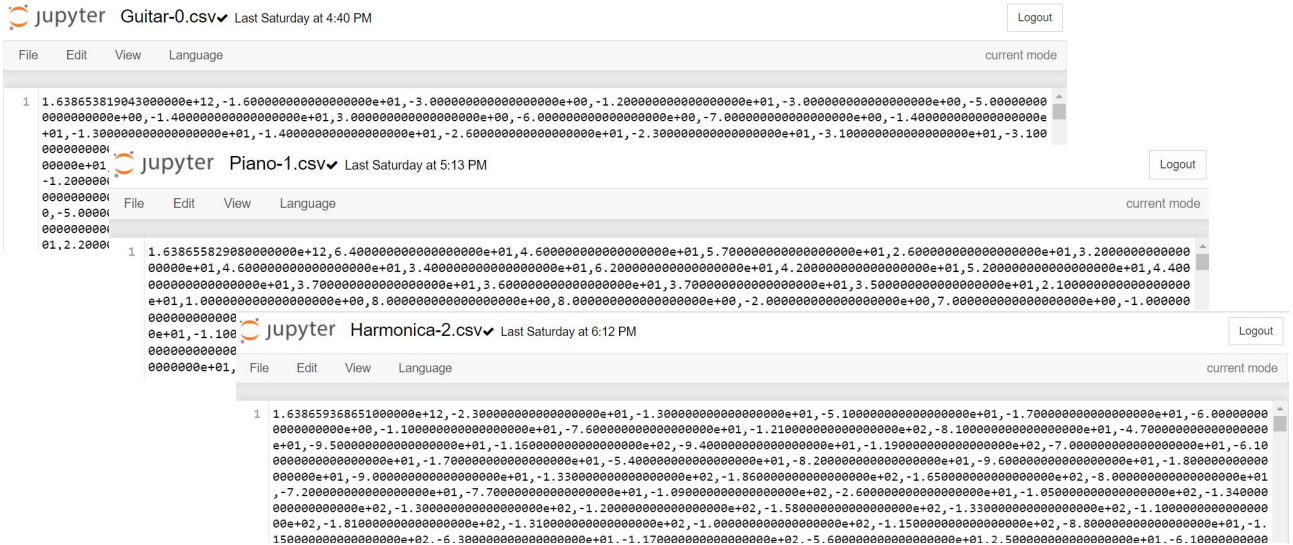
Instruments Identification

Group 10

Data Collection

- Guitar-0.csv
- Harmonica-2.csv
- NoSound-4.csv
- Piano-1.csv
- Saxophone-3.csv



Each sample was recorded for 3 minutes

Features used to identify different instruments

- Frequencies using FFT
- Mel scale MFCC
- Distribution of frequencies over formants

Confusion Matrix

	G	P	H	S	No Sound
Guitar	[[141.	16.	6.	3.	31.]
Piano	[39.	97.	13.	16.	6.]
Harmonica	[11.	19.	94.	30.	2.]
Saxophone	[7.	26.	38.	71.	3.]
No sound	[27.	2.	1.	0.	161.]]

Results

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The average accuracy is 0.6558139534883722
The average precision is [0.70723066 0.58434564 0.61578338 0.50084363 0.84795131]
The average recall is [0.62147305 0.61418528 0.62760504 0.59541639 0.80421013]
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Guitar → Piano → Harmonica → Saxophone → No Sound