Task

The task is to perform the given operations on a sample dataset of EEG

- Read the given EEG sample data
- Visualize the the sample data and plot the graphs
- Apply fast fourier transform on the samples
- Apply bandpass filtering on the samples
- Use **DeepSleepNet** model to infer sleep stages on the given sample data and plot the results.

> Use only **Fp2-F4** channel of EEG when training the model
>
> https://arxiv.org/pdf/1703.04046.pdf: Paper explaining DeepSleepNet Model
> https://github.com/akaraspt/deepsleepnet: Implementation of DeepSleepNet

Dataset:

https://physionet.org/content/sleep-edfx/1.0.0/

The above link can be used as the sample dataset.

> It contains about 8 GBs of Polysomnography, but you may use a shorter sample of about 500MBs from the dataset.
> Make sure the sample taken is from the given dataset only.

Submission:

Upload the findings on GitHub along with a proper **README** explaining what were the steps taken for preprocessing and why were those chosen.

> State any assumptions you have taken while processing the data and explain why
>
> Include the links to any extra references that you took in order to complete the assignment.