

For questions 1 and 2, two datasets are provided. In these datasets seven variables are reported for all countries.

1. For the given dataset find best fit of data in the form  $Ax+Bx^2$  using X-square fitting. Find Fischer information for A and B. (you may need to check your results using numpy.poyfit function)

dataset: data.npy (load from current directory)

input: None

Output: Best A, B, Fischer matrix

2. Record a voice of your choice and use a low-pass filter to reduce noise on the voice. (arecord is the command you can use for record.)

input: None

output: None

3. Record a video using your webcam and detect faces in that video.

input: None

output: None

Good Luck, Alireza Vafaei Sadr