PHY106: Assignment 5

Instructor: Tobias Toll

Febraury 22

Submit programs files (soft copies) by **Wednesday March 1**. Create programs using the any editor, eg SPYDER. Name your files thus: `(your-name)_assignment(number)_prob(number).py`. Example: Sushmita will save her assignment 1, promblem 2, as `Sushmita_assigment1_prob2.py`

Submit over email to `tobias.toll@snu.edu.in` and `rs190@snu.edu.in`

The Jacobi method

a) Write a program which finds the eigenvectors and eigenvalues of any *symmetrical* matrix.

b) Use the program to find the eigenvalues and eigenvectors of:

$$\mathrm{A} = \begin{bmatrix} 4 & -2 & 1 & -1 \\ -2 & 4 & -2 & 1 \\ 1 & -2 & 4 & -2 \\ -1 & 1 & -2 & 4 \end{bmatrix}$$