

Numerical Methods - Assignment 12

Due Thursday, Nov 14

Write a Matlab function

```
eigenval( M , i , eps )
```

which receives a symmetric tridiagonal matrix M , with eigenvalues $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_n$, and returns an approximation of the i th eigenvalue λ_i of M with error bounded by the positive real eps . You will use a bisection method based on the Sturm sequence property, which appears in Section 5.6 of the book and has been described in class in early October.