

Homework: 8

Due November 24. The writeups should be brief (preferably < 1 page) and include 1) the answer 2) the method you used and why you think it works 3) one paragraph on how you implemented the method. You need to compute the answer with at least 9 correct decimal digits.

1. Compute the smallest eigenvalue of the 100-by-100 matrix $H=1/(i+j)$.
Solution: See the solution to Problem 7.1.
2. The infinite matrix A has entries $A(1,1)=1$, $A(1,2)=1/2$, $A(2,1)=1/3$, $A(1,3)=1/4$, $A(2,2)=1/5$, $A(3,1)=1/6$, etc. Compute $\|A\|_2$.
Solution: See this [website](#), and problem 3 (and its solution) there.