MATH 726
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Spring 1996

Assignment #1: Introduction to Matrix Computations

Due: Friday, 19 January 1996

Reading assignment:

Text	Section	Comments
G/VL	1.1, 1.2	pay particular attention to the `saxpy` and `gaxpy` operations and the variety of algorithms available for the different matrix multiplications
C	1.1	compare the notation and terminology between G/VL and C

Problems from Golub and VanLoan:

Section	Page	Problems
1.1	15	# 1.1.3 (attempt to minimize the number of multiplications)
		# 1.1.4
1.2	25	# 1.2.5
2.2	52	# 2.1.2, 2.1.3, 2.1.4

Other Problems

- Verify formula (2.1.4), p. 51, of G/VL.
- Show that if $v_1, v_2, \ldots, v_k \in \mathbf{R}^n$ are orthonormal, then they are linearly independent.

Notes

- These problems have been selected to lay a common foundation from which we can add new knowledge. Some of the necessary information will not be covered in class. The reading assignments have been selected to supplement the necessary information.
- You are encouraged to work together with your classmates. However, any solution you turn in must be prepared by you – no copying of solutions.
- If you have any questions, please ask in class, in office hours, by e-mail, ...