Terms to Review for Final Exam

Terms you should know (roughly in the order we encountered them):

- matrix
- the (i, j)-entry of a matrix
- size of a matrix
- square matrix
- vector
- rotation matrix
- transpose
- symmetric matrix
- trace
- zero matrix
- zero vector
- standard basis vectors
- scalar
- diagonal entries of a matrix
- diagonal of a matrix
- identity matrix
- system of linear equations
- homogeneous system of linear equations
- augmented matrix
- elementary row operation
- elementary matrix
- reduced echelon form (ref) of a matrix
- reduced row echelon form (rref) of a matrix
- pivot columns of a matrix
- basic variables
- free variables
- rank of a matrix

- nullity of a matrix
- column correspondence property
- linearly dependent set of vectors
- linearly independent set of vectors
- inverse of a matrix
- upper-triangular matrix
- lower-triangular matrix
- unit lower-triangular matrix
- LU-decomposition of a matrix
- back substitution
- determinant
- cofactor
- cofactor expansion
- parallelepiped
- nilpotent matrix
- subspace of \mathbb{R}^n
- basis (plural: bases)
- dimension
- column space (ColA)
- row space (RowA)
- null space (NullA)
- eigenvalue of a matrix
- eigenvalue
- eigenspace
- characteristic equation
- characteristic polynomial
- algebraic multiplicity of an eigenvalue (what the book calls multiplicity)
- geometric multiplicity of an eigenvalue
- diagonalizability of a matrix

- Markov chain
- regular Markov chain
- length of a vector (also called norm and magnitude)
- dot product
- orthogonal vectors (also called perpendicular)
- orthogonal set of vectors
- orthogonal basis
- orthonormal set of vectors
- orthonormal basis
- orthogonal matrix
- orthogonal projection of a vector onto a line
- Gram-Schmidt process
- distance between two vectors
- triangle inequality
- Cauchy-Schwarz inequality
- QR factorization of a matrix
- orthogonal projection of a vector onto a subspace