

Reading Assignment 16

Read Sect. 6.3

1. How did we define the adjoint of an $m \times n$ matrix in section 6.1?
2. What is the objective of Section 6.2?
3. How are the matrix representations of T^* and T related?
4. Why is it “clear” that the function $g(x)$ in page 357 is linear?
5. Do an example in R^3 that illustrates Theorem 6.8.
6. In Theorem 6.9 the adjoint operator is introduced, can you tell me the condition (equation) that it satisfies?
7. Theorem 6.10 claims to help compute the adjoint operator, how is it useful?
8. What is the adjoint of L_A for any $n \times n$ matrix A ?
9. Give a different example than the one given in Example 2 in your book to illustrate how to compute the adjoint of a linear operator.
10. Theorem 6.11 lists some properties of the adjoint operator, what are these properties?
11. State Lemma 2 and its Corollary in page 362 and give an example when $n \neq m$.

Practice Problems: Sect. 6.3 # 1,2,3