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6 April 2023  
Due Tuesday 11 April 2023

**Linear Algebra, Math 2101-002**  
**Homework set #11**

1. (10 pts., 2 pts. each part) Do exercise 5.9.1 of the book.
  
2. Optional (extra credit 4 pts.). Do exercise 5.9.9 of the book. That is, for  $P$  such that  $P \neq 0$ ,  $P \neq I$ , with  $P^2 = P$ , prove that  $\|P\|_2 = \|I - P\|_2$ . (Hint. Look at the picture in Example 5.9.2 for some inspiration).