

**Bonus Question<sup>1</sup>**

1. Given  $A_{m \times n}$ . Write a function called LDLT. Its input is  $A$  and as output produces EITHER:  $L$  a lower triangular matrix and  $D$  a diagonal matrix such that  $A = LDL^T$  OR a message saying “Such a decomposition for  $A$  is not possible because of XXX reason”. The function should also come with a prologue that will serve as a help manual for the user.

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<sup>1</sup>Best “correct” answer gets one order of chocolate fantasy cake from Cafe Coffee day