

# Computation of LU Factorization

November 7, 2018

Given  $A \in \mathbb{R}^{n \times n}$  form  $L, U \in \mathbb{R}^{n \times n}$

---

```
1:  $L \leftarrow I_n$ 
2: for  $k = 1, \dots, n - 1$  do
3:   for  $j = k + 1, \dots, n$  do
4:      $l_{jk} \leftarrow a_{jk}/a_{kk}$ 
5:      $A(j, k : n) \leftarrow A(j, k : n) - l_{jk}A(k, k : n)$ 
6:   end for
7: end for
8:  $U \leftarrow A$ 
```

---