

School of Computing and Information Systems  
The University of Melbourne  
COMP90049 Knowledge Technologies (Semester 2, 2018)  
Workshop exercises: Week 4

Suppose that we have observed the token **lended**, and we have a dictionary as follows:

```
addendum  
blenders  
commodity  
deaden  
end  
leader  
leant  
lent  
lemonade  
pleading
```

1. Which, if any, of the above dictionary entries would be returned using a Neighbourhood Search with a neighbourhood of 1? 2? 3?
2. With respect to the input string **lended** and the dictionary entry **deaden**, calculate the following:
  - (a) the Global Edit Distance, using the parameter  $[m, i, d, r] = [+1, -1, -1, -1]$
  - (b) the Local Edit Distance, using the parameter  $[m, i, d, r] = [+1, -1, -1, -1]$
  - (c) the N-Gram Distance, using  $n = 2$
3. Find the best approximate match (or matches, if there are ties) in the dictionary for the string **lended**, based on the following methods; consider different parameters where necessary:
  - (a) the Global Edit Distance
  - (b) the Local Edit Distance
  - (c) the N-Gram Distance
  - (d) Soundex
4. Assuming that the “correct” (intended) dictionary entry was **lent**, calculate the precision of each of the above methods of finding approximate entries from the dictionary.