

## Computational Linguistics Assignment #4

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### Question 1

START	< [ROOT] [I would like it to have a stop in Boston], {} >
SHIFT	< [ROOT I] [would like it to have a stop in Boston], {} >
LEFT ARC	< [ROOT] [would like it to have a stop in Boston], {(would, I)} >
SHIFT	< [ROOT would] [like it to have a stop in Boston], {(would, I)} >
SHIFT	< [ROOT would like] [it to have a stop in Boston], {(would, I)} >
SHIFT	< [ROOT would like it] [to have a stop in Boston], {(would, I)} >
SHIFT	< [ROOT would like it to] [have a stop in Boston], {(would, I)} >
LEFT ARC	< [ROOT would like it] [have a stop in Boston], {(would, I), (have, to)} >
LEFT ARC	< [ROOT would like] [have a stop in Boston], {(would, I), (have, to), (have, it)} >
SHIFT	< [ROOT would like have] [a stop in Boston], {(would, I), (have, to), (have, it)} >
SHIFT	< [ROOT would like have a] [stop in Boston], {(would, I), (have, to), (have, it)} >
LEFT ARC	< [ROOT would like have] [stop in Boston], {(would, I), (have, to), (have, it), (stop, a)} >
SHIFT	< [ROOT would like have stop] [in Boston], {(would, I), (have, to), (have, it), (stop, a)} >
SHIFT	< [ROOT would like have stop in] [Boston], {(would, I), (have, to), (have, it), (stop, a)} >
RIGHT ARC	< [ROOT would like have stop] [in], {(would, I), (have, to), (have, it), (stop, a), (in, Boston)} >
RIGHT ARC	< [ROOT would like have] [stop], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in)} >
RIGHT ARC	< [ROOT would like] [have], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in), (have, stop)} >

RIGHT ARC	< [ROOT would] [like], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in), (have, stop), (like, have)} >
RIGHT ARC	< [ROOT] [would], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in), (have, stop), (like, have), (would, like)} >
RIGHT ARC	< [] [ROOT], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in), (have, stop), (like, have), (would, like), (ROOT, would)} >
SHIFT	< [ROOT] [], {(would, I), (have, to), (have, it), (stop, a), (in, Boston), (stop, in), (have, stop), (like, have), (would, like), (ROOT, would)} >

## Question 2

The first and third trees are projective, the second is not.

## Question 3

START	< [0] [] [1 2 3], {} >
SHIFT	< [0 1] [] [2 3], {} >
LEFT ARC	< [0] [1] [2 3], {(2, 1)} >
RIGHT ARC	< [] [0 1] [2 3], {(2, 1), (0, 2)} >
SHIFT	< [0 1 2] [] [3], {(2, 1), (0, 2)} >
NO ARC	< [0 1] [2] [3], {(2, 1), (0, 2)} >
RIGHT ARC	< [0] [1 2] [3], {(2, 1), (0, 2), (1, 3)} >
SHIFT	< [0 1 2 3] [] [], {(2, 1), (0, 2), (1, 3)} >