FIT3155: Lab questions for week 4

Objectives: Understanding Ukkonen's algorithm for suffix tree construction. **Notes:** It is advised that you implement Ukkonen's algorithm step-by-step as suggested below. After each step, test your implementation on simple string inputs.

1. Implement Ukkonen's algorithm for suffix tree construction without any optimizations/speed-up/tricks. (Refer slide 16 of the lecture slides.)
2. Extend the above implementation by computing suffix links during each phase. (Refer slide 22.)
3. Add further, the ability to traverse via the suffix links during suffix extensions in any given phase. (Refer slides 23-26.)
4. Enhance this implementation using skip/count trick. (Refer slide 27.)
5. If not already done, extend further your implementation using the space-efficient representation of edge-labels. (Refer slide 28.)
6. Add to this, the premature stopping criterion. (Refer slide 29.)
7. Improve this further to handle rapid leaf extensions. (Refer slides 30-34.)
8. Finally, generate the final suffix tree of the input string (by extending the implicit tree one more time by '$' character). (Refer slide 35.)

```
-=0=-
 END
-=0=-
```