

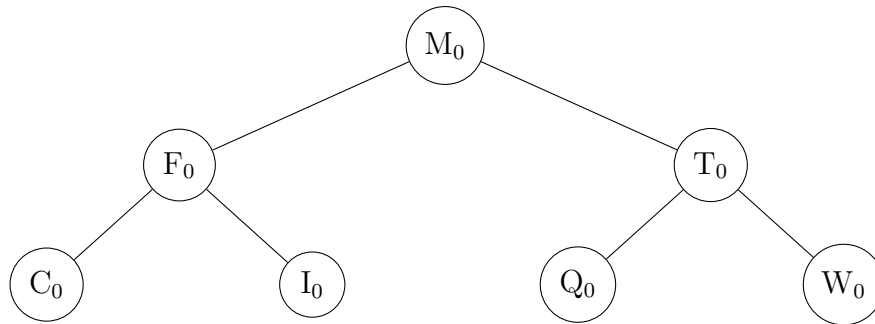
**University of Waterloo**  
**CS240 Spring 2023**  
**Tutorial 00**

## 1 Mathematics

Write a proof showing that  $\log(n!) \in O(n \log n)$ .

## 2 Trees

We will add the letters Z, A, and B to the BST below.

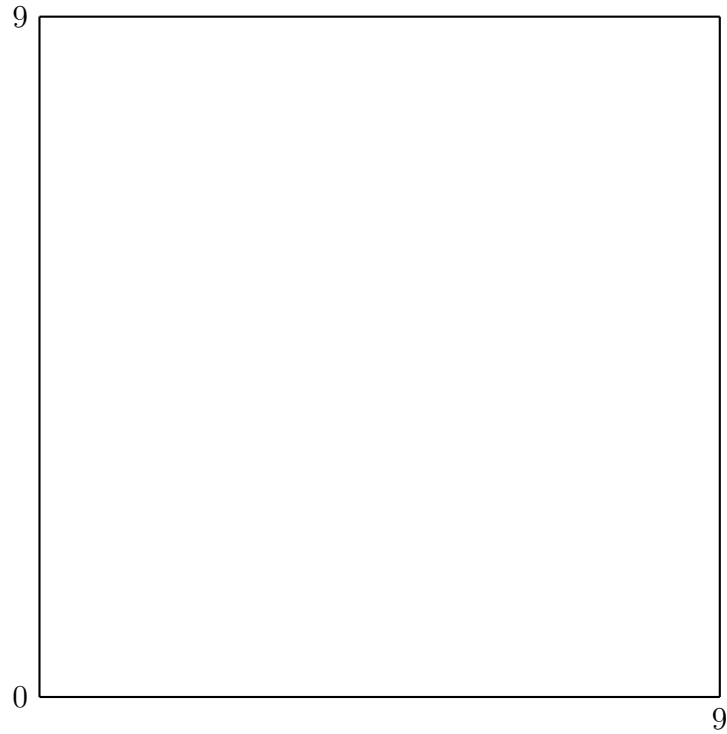


*Hint: For nodes with only one child, you may wish to use “child[missing]” for the non-existent child.*

## 3 Plots

Plot the following points below. Only show the resulting plot.

Points: (2,7), (1,3), (3,1), (7,7)



## 4 Latex Resources

### LaTeX Editors

- a) TeX Live: <https://www.tug.org/texlive/>
- b) TeXstudio: <https://www.texstudio.org/>
- c) Overleaf: <https://www.overleaf.com/>
- d) pdflatex: on the student environment

### Miscellaneous Resources

- <http://detexify.kirelabs.org/classify.html>
- [https://oeis.org/wiki/List\\_of\\_LaTeX\\_mathematical\\_symbols](https://oeis.org/wiki/List_of_LaTeX_mathematical_symbols)
- <https://en.wikibooks.org/wiki/LaTeX>
- <https://tex.stackexchange.com/>