

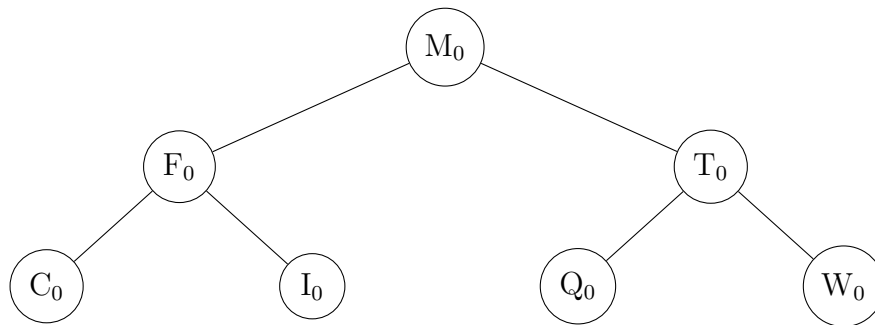
University of Waterloo  
CS240 Winter 2025  
Tutorial 00

## 1 Mathematics

Write a proof showing that for any integer  $b$ , we have  $ab = 0, \forall a \in \mathbb{Z} \implies b = 0$ .

## 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 Pseudocode

The following code segment does not properly swap A and B. Make adjustments to correct it.

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**Algorithm 1:**  $swap(A, B)$

---

**Input** :  $A$  and  $B$  are object references

```
1 if  $A = B$  then
2   | return
3 else
4   |  $A \leftarrow B$ 
5   |  $B \leftarrow A$ 
```

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## 4 Tables

The following table is incomplete. Add an additional row to fill in the missing information (if you don't know what should be in the last row, put whatever you want).

Bulbasaur	Ivysaur	Venusaur
Charmander	Charmeleon	Charizard

## 5 Images

Uploading an image can sometimes be easier to display your work. Take a screenshot, then upload it to your project and display it below.

A large, pixelated, black text graphic that reads "Replace me :)". The text is centered on the page and has a retro, digital aesthetic.

Figure 1: Placeholder Text

## 6 Latex Resources

L<sup>A</sup>T<sub>E</sub>X 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/>