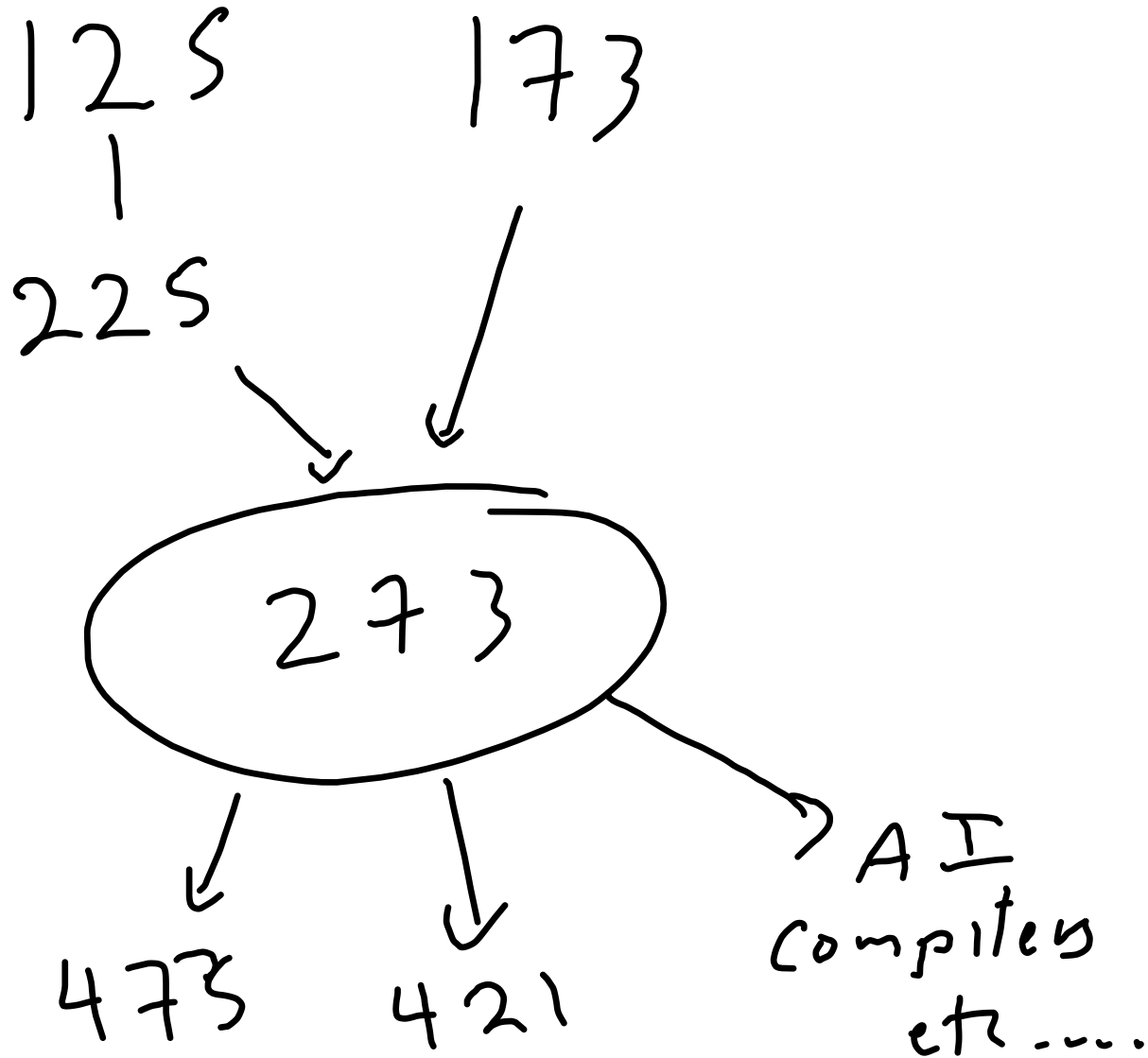


Welcome to

CS 273

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Problem: how to describe
& manipulate sets of words,
sets of sentences,
sets of documents?

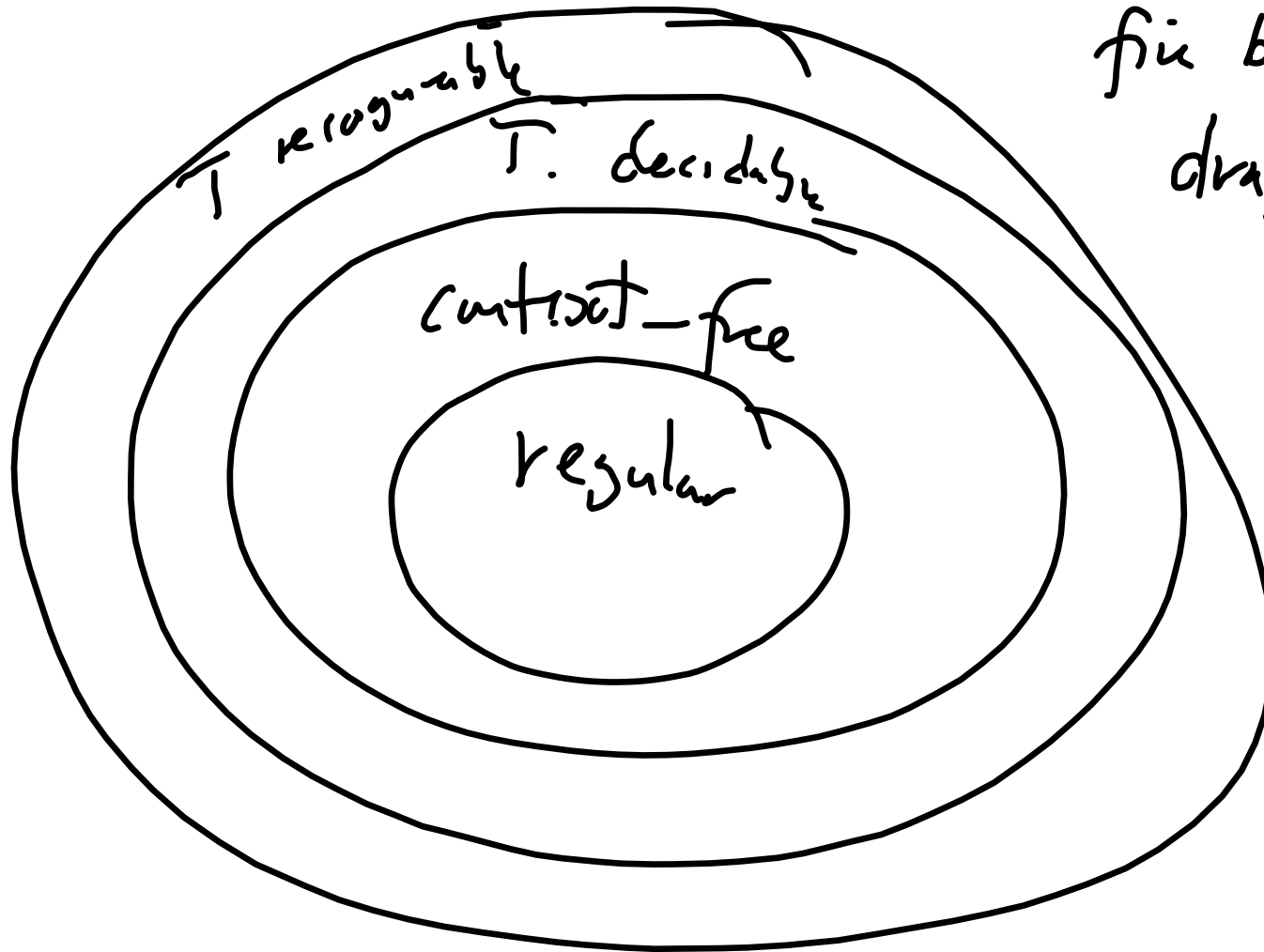
- user-friendly descriptions
of objects in sets
- efficient algorithms for
recognizing elements of set

Applications

- Compilers, interpreters
- I/O routines (es. http server)
- natural language understanding
- information retrieval
(grep Google)

3 formal mechanisms

<u>type of set</u>	<u>descriptions</u>	<u>machines</u>
regular languages	regular exp	finite-state automata
context free languages	context free grammars	pushdown automata
things recognizable & decidable	[unstructured grammar] ↳ math English	Turing machines (C programs)



fire-breathing
dragons ≡

What use is This?

- ① Undecidable problems are cool!
- ② Regular lgs, context-free lgs are practical
- ③ Mathematical maturity

Mathematics

- practice w/ formalisms
- checking degenerate / special cases
- familiarity with abstractions
- writing general arguments

Readings

stein ch 0

start ch 1.1 (up to p. 34)