Week		Content	Reading	HW Assigned	PA Assigned
week1	Tuesday, September 5, 2023	Course policies, introduction to Th. Of Comp. First look at Finite State Automata (FSA)	Chapter 0		
	Thursday, September 7, 2023	Terminology and formal defnition of FSAs state diagrams, regular languages (RL) operations on RLs	Chapter 1.1	PS1 Out Due Fri, 09/22, 11:59pm	
week 2	Tuesday, September 12, 2023	Closure of RLs under operations of union and intersection, the product machine	Chapter 1.1		
	Thursday, September 14, 2023	Non-deterministic Finite Automata, closure under concatenation & Kleene star	Chapter 1.2		PA1 Out Thu, 10/12, 11:59pm
week 3	Tuesday, September 19, 2023	Other regular operations Equivalence of NFAs and DFAs, Subset Construction	Chapter 1.2		
	Thursday, September 21, 2023	NFAs whose DFAs have exponential size, Regular Expressions, Conversion from REs to NFAs/DFAs	Chapter 1.3	PS2 Out Due Fri, 10/06, 11:59pm	
week 4	Tuesday, September 26, 2023	RE to DFA conversion Example GNFAs and conversion from DFAs ⟷ REs	Chapter 1.3		
	Thursday, September 28, 2023	Distinguishable & equivalent states in a DFA, Distinguishability Lemma, the Quotient automaton	Hopcroft, et al. 4.4		
week 5	Tuesday, October 3, 2023	State minimization algorithm for DFAs, the Pumping Lemma for regular languages	Hopcroft, et al. 4.4.3 Sipser 1.4		
	Thursday, October 5, 2023	Examples of non-regular languages, using the the Pumping Lemma to prove non-regularity	Chapter 1.4	PS3 Out Due Fri, 10/20, 11:59pm	
week 6	Tuesday, October 10, 2023	Monday Schedule/No class			
	Thursday, October 12, 2023	Context Free Grammars	Chapter 2.1		
week 7	Tuesday, October 17, 2023	Parse Trees, CFG ambiguity converting DFAs to CFGs	Chapter 2.1		PA2 Out Due Tue, 11/14, 11:59pm
	Thursday, October 19, 2023	Review		PS4 Out Due Fri, 11/03, 11:59pm	
week 8	Tuesday, October 24, 2023	MIDTERM EXAM			
	Thursday, October 26, 2023	CFL Closure Properties, Chomsky's normal form	Chapter 2.1		
week 9	Tuesday, October 31, 2023	Pushdown Automata	Chapter 2.2		
	Thursday, November 2, 2023	Equivalence of CFGs and NPDAs CFL Pumping Lemma	Chapter 2.2, 2.3	PS5 Out Due Fri, 11/17, 11:59pm	
week 10	Tuesday, November 7, 2023	CFL Pumping Lemma Examples & Proof	Chapter 2.3		
	Thursday, November 9, 2023	Turing Machines	Chapter 3.1		
week 11	Tuesday, November 14, 2023	Equivalence of Multi-tape, Nondeterministic and Single-Tape Machines	Chapger 3.2		PA3 Out Due Thu, 12/05, 11:59pm
	Thursday, November 16, 2023	Decidable Languages, Enumerators	Chapter 4.1	PS6 Out Due Wed, 11/29, 11:59pm	
week 12	Tuesday, November 21, 2023	Undecidable & Unrecognizable Languages	Chapter 4.2		
	Thursday, November 23, 2023	Thanksgiving!			
week 13	Tuesday, November 28, 2023	Reductions and Examples of Undecidable Languages	Chapter 5.1	PS7 Out Due Tue, 12/12, 11:59pm	
	Thursday, November 30, 2023	The Class of Polynomial Languages	Chapter 7.1, 7.2		
week 14	Tuesday, December 5, 2023	The Class NP	Chapter 7.3		
	Thursday, December 7, 2023	Polynomial Reductions, NP Complete Problems	Chapter 7.4		
week 15	Tuesday, December 12, 2023	Examples of NP Complete Problems	Chapter 7.4, 7.5		
	Thursday, December 14, 2023	FINAL EXAM			

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Equivalence of Multi-tape, Nondeterministic and Single-Tape Machines
Decidable Languages, Enumerators
Undecidable & Unrecognizable Languages
Reductions
The Recursion Theorem

Class NP
Examples of NP Problems Polynomial Reductions
Cook's Theorem NP-Completeness
Polynomial Verifiers
Examples of NP-complete Problems
Review