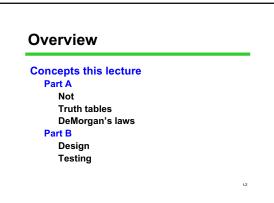
CSE 142 Computer Programming I

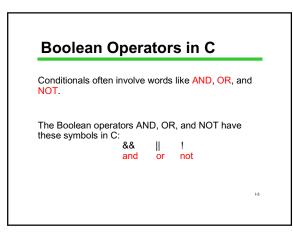
Complex Conditions

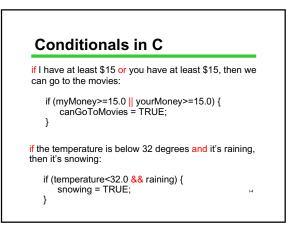
From Homework Descriptions to Programs

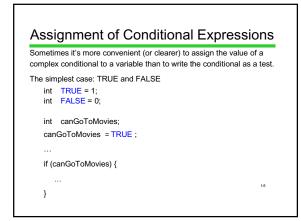
I-1

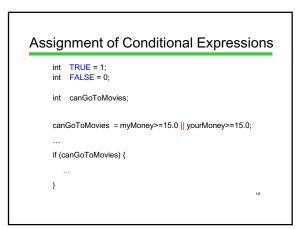
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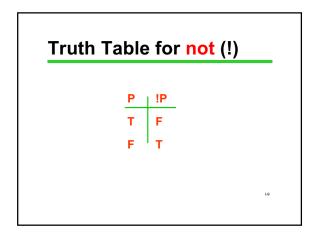


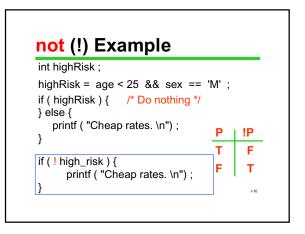
Suppose we want a while loop to terminate as soon as *either x is 17 or x is 42* Which is it? while (x!=17 || x!=42) ... while (x!=17 && x!=42) ...

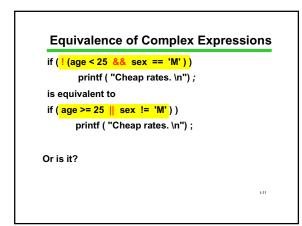
Either way? Something else?

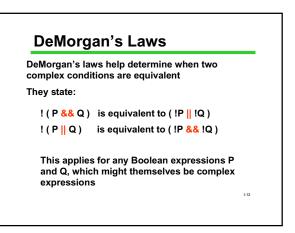
Truth tables and DeMorgan's Law give us tools for answering such questions

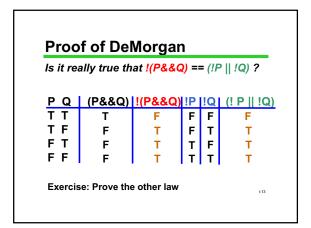
A "truth ta	ble" lists a	all possible o	combination	is of values, ar
the result	of each c	ombination		
	ΡQ	P && Q	P Q	
	ΤТ	Т	Т	
	TF	F	т	
	FΤ	F	т	
	E E	F	F	

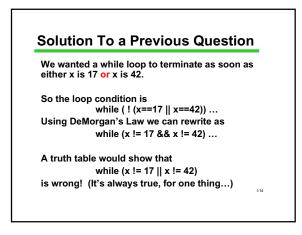


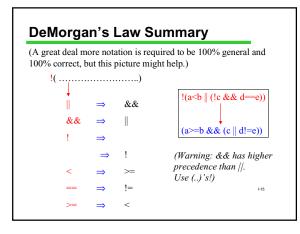


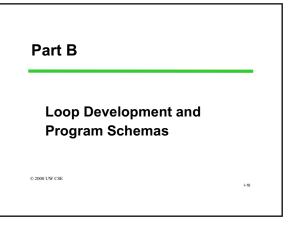










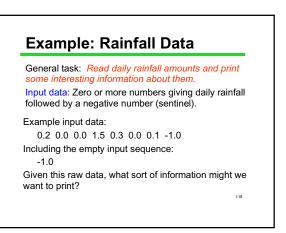


Goals for Loop Development

Getting from problem statement to working code

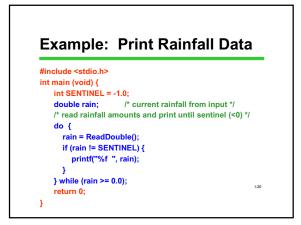
Systematic loop design and development Recognizing and reusing code patterns

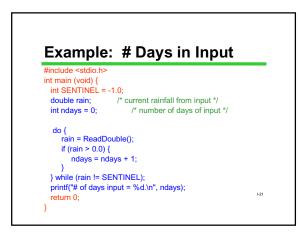
I-17

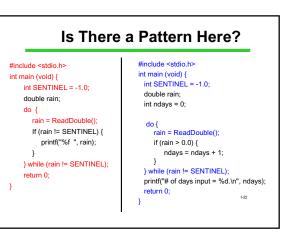


Rainfall Analysis

Some possibilities: Just print the data for each day Compute and print the answer to one of these questions How many days worth of data are there? How much rain fell on the day with the most rain? On how many days was there no rainfall? What was the average rainfall over the period? What was the median rainfall (half of the days have more, half less)? On how many days was the rainfall above average? What's similar about these? Different?







Program Schema A program schema is a pattern of code that solves a general problem Also called a "design pattern" Learn patterns through experience, observation. If you encounter a similar problem, try to reuse the pattern

Tips For Problem Solving

Given a problem to solve, look for a familiar pattern

Work the problem by hand to gain insight into possible solutions. Ask yourself "what am I doing?"

Check your code by hand-tracing on simple test data.

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