

CS1371 – Computing for Engineers

Text: David Smith, *Concepts in Computer Science Implemented in MATLAB®*, pre-publication copies

Week	Title	Problems
	1. Introduction	
Part I - Programming Fundamentals		
1	2. Getting Started with MATLAB	2-1a, c
	3. Scripts	3-1 3-3
	4. Vectors	4-1, 4-7, 4-8, 4-10
	5. Conditional Statements	5-6, 5-7, 5-10, 5-12
	6. Iteration	6-8, 6-9, 6-10
	7. Functions	7-1, 7-3, 7-5, 7-10
	2	8. Generic Arrays
9. Structures		9-4, 9-6, 9-8, 9-10
10. Principles of Problem Solving		
11. Arrays		11-2, 11-4, 11-6, 11-8
12. Character Strings		12-2, 12-8, 12-10, 12-11
13. Recursion		13-2, 13-4, 13-5, 13-6
14. Exceptions		
Test 1		
Part II - Procedural Programming		
3	15. Plotting	15-6, 15-8, 15-10, 15-12
	16. Matrices	16-1, 16-4, 16-5
	17. File I/O	17-1, 17-2, 17-3, 17-4
	18. Sounds	18-2, 18-4, 18-6, 18-7
4	19. Images	19-4, 19-5, 19-7, 19-8
	20. Numerical Methods	20-8, 20-11, 20-12, 20-13
	21. Big O	
	22. Sorting	22-3
Test 2		
Part III - Object-Oriented Programming		
5	23. Object-Oriented Programming	23-1, 23-2, 23-3
	24. Modeling Objects	24-1, 24-2, 24-3, 24-4
	25. Dynamic Data Structures	
	26. Implementing a Linked List in MATLAB	26-8, 26-10, 26-12, 26-14
	27. Binary Trees	27-3, 27-4, 27-5, 27-6
6	28. N-ary Trees	28-1, 28-2
	29. Graphs	29-1, 29-2
	Test 3	
	30. Iterators	
	31. Cost of Computing	

Web Resources

http://www.cc.gatech.edu/classes/AY2005/cs1371_summer/ - class web site

<https://www.webwork.cc.gatech.edu/webwork/login> - turn in assignments

http://www.dms489.com/Concepts_book/index.html - code and examples

Course Policies

1. Upon completion of every chapter, you are expected to work out all the suggested problems from that chapter. *Every Thursday at noon*, you are to submit the assigned problems and one or more of them will be selected for the purposes of grading. This constitutes your homework assignment which will count 10% towards the final grade.
2. Three tests each counting 15% towards the final grade will be given at about equally spaced intervals during the term. You will be notified at least a week in advance of an upcoming test.
3. **Grading:** Homework = 10%, Tests = 45% (15% each), Final = 45%

INSTRUCTOR:

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