MIT 6.00 Directed Study Calendar

LEC #/ Date	TOPICS	Assignments
Lecture 1, 1/30/12	Goals of the course; what is computation; introduction to data types, operators, and variables	Problem set 0 out
Lecture 2, 2/1/12	Operators and operands; statements; branching, conditionals, and iteration	Problem set 0 due Problem set 1 out
Lecture 3, 2/6/12	Common code patterns: iterative programs	Problem set 1 due Problem set 2 out
Lecture 4, 2/8/12	Decomposition and abstraction through functions; introduction to recursion	Problem set 2 due Problem set 3 out
Lecture 5, 2/13/12	Floating point numbers, successive refinement, finding roots	
Lecture 6, 2/15/12	Bisection methods, Newton/Raphson, introduction to lists	Problem set 3 due Problem set 4 out
Lecture 7, 2/27/12	Lists and mutability, dictionaries, pseudocode, introduction to efficiency	
Lecture 8, 2/29/12	Complexity; log, linear, quadratic, exponential algorithms	Problem set 4 due
3/5/2012	Quiz 1	Problem set 5 out
Lecture 9, 3/7/12	Binary search, bubble and selection sorts	
Lecture 10, 3/12/12	Divide and conquer methods, merge sort, exceptions	Problem set 5 due Problem set 6 out
Lecture 11, 3/14/12	Testing and debugging	
Lecture 12, 3/19/12	More about debugging, knapsack problem, introduction to dynamic programming	Problem set 6 due Problem set 7 out
Lecture 13, 3/21/12	Dynamic programming: overlapping subproblems, optimal substructure	Problem set 7 due Problem set 8 out
Lecture 14, 3/26/12	Analysis of knapsack problem, introduction to object-oriented programming	
Lecture 15, 3/28/12	Abstract data types, classes and methods	
Lecture 16, 4/9/12	Encapsulation, inheritance, shadowing	Problem set 8 due Problem set 9 out
4/11/2012	Quiz 2	Problem set 9 due
Lecture 17, 4/16/12	Computational models: random walk simulation	Problem set 10 out
Lecture 18, 4/18/12	Presenting simulation results, Pylab, plotting	Problem set 10 due Problem set 11 out
Lecture 19, 4/23/12	Biased random walks, distributions	
Lecture 20, 4/25/12	Monte Carlo simulations, estimating pi	Problem set 11 due Problem set 12 out
Lecture 21, 4/30/12	Validating simulation results, curve fitting, linear regression	
Lecture 22, 5/2/12	Normal, uniform, and exponential distributions; misuse of statistics	
Lecture 23, 5/7/12	Stock market simulation	Problem set 12 due
Lecture 24, 5/9/12	Course overview; what do computer scientists do?	