

APCS HW Cal - Data Structure Extravaganza - 2007/2008

| Date | Section/ Book | HW # | Assignment |
|---------------------|------------------|------|---|
| 1/7 Mon | 14.1 | 50 | Lambert Reading: 14.1 Lambert: Pg 562 #1-5 |
| 1/8 Tue | 14.2 | 51 | Lambert Reading: 14.2 Lambert: Pg 571-572 #1-6 |
| 1/9-1/10 BLOCK | 14.3 | 52 | Lambert Reading: 14.3 Lambert: Pg 578 #1-5 and Pg 579 #1-12 |
| 1/11 Fri | Finals Review | 53 | Practice Multiple Choice I |
| 1/14 Mon | Finals Review | 54 | Go over Multiple Choice Practice Free Response |
| 1/15 Tue | Finals Review | 55 | Go over Free Response Practice Final |
| 1/16-1/18 FINALS | | | Wed = Periods 1 & 5 Thur = Periods 3, 6, 7 Fri = Periods 2 & 4 |
| 1/22 Tue | 15.1 | 1 | Lambert Reading: 15.1 Lambert: Pg 595 #1-6 |
| 1/23-1/24 BLOCK | 15.2 & 15.3 | 2 | Lambert Reading: 15.2 and 15.3 Lambert: Pg 597 #1-3 and Pg 611 #1-8 |
| 1/25 Fri | Litvin | 3 | Litvin Reading: 21.1, 21.2, 21.4, 21.5, 21.7 (15.4 is for GUI lovers and is optional reading) Lambert: Pg 621 #1-10 Litvin: Pg 542 #1, 4 (just do explanation, you don't have to rewrite code), 5a, 5b |
| 1/28 Mon | 16.1 | 4 | Lambert Reading: 16.1 Lambert: Pg 628 #1-6 |
| 1/29 Tue | Review | | Read relevant online links posted on APCS site pertaining to Stacks and Queues |
| 1/30-1/31 BLOCK | 16.2 | 5 | TEST ON STACKS AND QUEUES Lambert Reading: 16.2 Lambert: Pg 632 #1, 2 |

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| 2/1 Fri | 16.3 & 16.4 | 6 | Lambert Reading: 16.3-16.4 Lambert: Pg 637 #1-3 |
| 2/4 Mon | 16.5 | | Lambert Reading: 16.5 and Case Study |
| 2/5 Tue | 16.6 | 7 | Lambert Reading: 16.6 Lambert: Pg 638 #1 ad Pg 649 #1 and Pg 650 #1-10 |
| 2/6-2/7 BLOCK | Litvin | 8 | Litvin Reading: 19.1-19.8, 19.10 Litvin: Pg 499 #1, 3, 7-10, 13 |
| 2/8 Fri | 17.1 & 17.2 | 9 | Lambert Reading: 17.1 and 17.2 Lambert: Pg 661 #1-3 and Pg 662 #1-2 |
| 2/11 Mon | 17.3 | 10 | Lambert Reading: 17.3 Lambert: Pg 664 #1-4 |
| 2/12 Tue | Review | | Read relevant online links posted on APCS site pertaining to Sets and Maps |
| 2/13-2/14 BLOCK | TEST 17.4 | 11 | TEST ON SETS AND MAPS Lambert Reading: 17.4 Lambert: Pg 674 #1-3 |
| 2/20-2/21 BLOCK | 17.5 & 17.6 | 12 | Lambert Reading: 17.5 and 17.6 Lambert: Pg 677 #1-2 and Pg 682 #1-2 |
| 2/22 Fri | 17.7 & 17.8 | 13 | Lambert Reading: 17.7 and 17.8 Lambert: Pg 685 #1 and Pg 690 #1-2 |
| 2/25 Mon | 17.9 & 17.10 | 14 | Lambert Reading: 17.9 and 17.10 Lambert: Pg 691 #1 and Pg 692 #1-10 |
| 2/26 Tue | Litvin | 15 | Litvin Reading: 20.1-20.3; 20.5, 20.6; 20.8 Litvin: Pg 523 #1, 2, 6 |
| 2/27-2/28 BLOCK | TEST | | TEST ON LISTS Lambert Reading: 18.1 and 18.2 |

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| 2/29 Fri | 18.3 | 16 | Lambert Reading: 18.3 Lambert: Pg 699 #1 and Pg 704 #1-7 |
| 3/3 Mon | 18.4 | 17 | Lambert Reading: 18.4 Lambert: Pg 709 #1-4 |
| 3/4 Tue | 18.5 | 18 | Lambert Reading: 18.5 Lambert: Pg 711 #1-3 and Pg 712 #1-10 |
| 3/5-3/6 BLOCK | 19.1 | 19 | Lambert Reading: 19.1 Lambert: Pg 723 #1-4 |
| 3/7 Fri | 19.2 | 20 | Lambert Reading: 19.2 Lambert: Pg 726 #1-2 |
| 3/10 Mon | 19.3 | 21 | Lambert Reading: 19.3 Lambert: Pg 737 #1-3 |
| 3/11 Tue | 19.4 & 19.5 | 22 | Lambert Reading: 19.4 and 19.5 Lambert: Pg 739 #1-2 and Pg 743 #1-5 |
| 3/12-3/13 BLOCK | 19.6 | 23 | Lambert Reading: 19.6 Lambert: Pg 745 #1-11 |
| 3/14 Fri | Litvin | 24 | Litvin Reading: 23.1-23.5, 23.8 Litvin: Pg 595 #1-3, 8, 15abf, 16-19 |
| 3/17 Mon | Litvin | 25 | Litvin Reading: 24.1, 24.2, 24.4, 24.5, 24.7 Litvin: Pg 621 #5, 6 |
| 3/18 Tue | Litvin | 26 | Litvin Reading: 25.1-25.4, 25.6 Litvin: Pg 634 #1-3, 4 |
| 3/19-3/20 BLOCK | TEST | | TEST ON TREES, PRIORITY QUEUES AND HASHING |
| SPRING BREAK REVIEW: 1 hr per day should get the job done! | | | |

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| PROJECTS | | | <p>Lambert Chapter 14: 14-1 through 14-6</p> <p>Lambert Chapter 15: 15-2, 15-4</p> <p>15A: Design and implement an application that simulates the customers waiting in line to buy movie tickets. Use a queue. As customers arrive at the theater, customer objects are put in the rear of the line using enqueue. When the ticket seller is ready for another customer, the customer object is removed using dequeue. Randomly determine when new customers arrive at the theater and when current customers are finished at the ticket window. Print a message each time an operation occurs during the simulation. Your queue data structure should implement the queue interface. BONUS: Let there be four ticket windows (and thus four queues) and automatically direct customers to go to the currently shortest queue. Show which queue had the shortest waiting time per customer on average.</p> <p>15B: <i>Infix</i> expressions put operands between numbers, such as $(5 + 2) * (8 - 5)$. <i>Postfix</i> expressions put the operands after the numbers, such as $5 2 + 8 5 - *$. (Thus eliminating the need for parentheses.) Design and implement an application that evaluates a postfix expression that operates on integer operands using the arithmetic operators +, -, *, /, and %. The evaluation of a postfix expression is facilitated using a stack. As you process a postfix expression from left to right, you encounter operands and operators. If you encounter an operand, push it onto the stack. If you encounter an operator, pop two operands off the stack, perform the operation, and push the result back on the stack. When you have processed the entire expression, there will be one value on the stack, which is the final answer. Hint: you may want to use a String Tokenizer object to assist in the parsing of the expression. You may assume the expression will be in valid postfix form.</p> <p>Lambert Chapter 16: 16-1, 16-2, 16-5 (bonus if you implement GUI)</p> <p>Lambert Chapter 17: 17-1 through 17-5</p> <p>Lambert Chapter 18: 18-1 through 18-5</p> <p>Lambert Chapter 19: 19-1 through 19-3; 19-5 through 19-7</p> |