**Computer Science 2 Lab # 06**



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**CS2 Section # 01**

**Due:**Problem A by the **end of the lab**and ProblemsBby the end of **Saturday** of the same week.

**TOPIC: Review of complete Java programs, standard I/O, If-Else**

**ProblemB:**

**Problem Description:**

2) Problem B is at MyProgrammingLab # 71046 (chapter 18, Programming Projects)

**Analysis:**

(Describe the problem including input and output in your own words. Type your answer in the following with **BLUE font color**)

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| **…**  **INPUT: The user will enter an integer and that integer will go through the program. This will continuously happen until the user hits enter on the keyboard.**  **OUTPUT: Based on the given input, the output will display the input in its reversed form and ask again for another input, if not the user will hit the enter key and the program will end.** |

**Design:**

(Describe the major steps for solving the problem. Type your answer in the following with **BLUE font color**)

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| **The major steps for solving this problem were finding out how to continuously ask the user for an input when they have not pressed the enter key to stop the program. To achieve this, I used a do-while loop to go through the program asking the user to input an integer and to continue to go through the program as long as the user provides an integer and stops if they hit the enter key. Another step that had to be completed in order to solve this problem was determining when to return the reversed display (When the input was fully reversed). To deal with this, I made my base case if x divided by 10 equal 0, as this value would not be a part of the reversed display. If x divided by 10 did not equal to 0, then the program first print out the input modulo by 10 and by the use of recursion use the method again and have the input divided by 10, removing the right-most digit.** |

**Coding:** (Copy and Paste Source Code here. Type your answer in the following with **BLUE font color**)

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| **import java.util.Scanner;**  **public class ReverseDisplay2{**  **public static void main(String[] args) {**  **int n;**  **Scanner input= new Scanner(System.in);**  **do{**  **System.out.print("Enter an integer to be reversed or hit enter to end program:");**  **n= input.nextInt();**  **System.out.print("The reverse of "+n+" is ");**  **reverseDisplay(n);**  **System.out.println();**  **}while(input.hasNextLine());**  **System.out.println("Enter an integer to be reversed or hit enter to end program:");**  **}**  **public static void reverseDisplay(int x){**  **if(x/10 == 0){**  **System.out.print(x);**  **}**  **else{**  **System.out.print(x%10);**  **reverseDisplay(x/10);**  **}**  **}**  **}** |

**Testing:** (Describe how you test this program. Type your answer in the following with **BLUE font color**)

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| **RUN three times, using the same input as in the sample runs:**  **Test 1:**  **Enter an integer to be reversed or hit enter to end program:3473233**  **The reverse of 3473233 is 3323743**  **Enter an integer to be reversed or hit enter to end program:3538342**  **The reverse of 3538342 is 2438353**  **Enter an integer to be reversed or hit enter to end program:8462372**  **The reverse of 8462372 is 2732648**  **Enter an integer to be reversed or hit enter to end program:**  **Test 2:**  **Enter an integer to be reversed or hit enter to end program:5739232**  **The reverse of 5739232 is 2329375**  **Enter an integer to be reversed or hit enter to end program:9375382**  **The reverse of 9375382 is 2835739**  **Enter an integer to be reversed or hit enter to end program:4567432**  **The reverse of 4567432 is 2347654**  **Enter an integer to be reversed or hit enter to end program:**  **Test 3:**  **Enter an integer to be reversed or hit enter to end program:84627**  **The reverse of 84627 is 72648**  **Enter an integer to be reversed or hit enter to end program:36345**  **The reverse of 36345 is 54363**  **Enter an integer to be reversed or hit enter to end program:28294**  **The reverse of 28294 is 49282**  **Enter an integer to be reversed or hit enter to end program:** |