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| ***Computer Science 1081 -*  ASSIGNMENT #5** | | |
| **Program** | Description | **Excecution Listing**  (only one test value shown) |
| 1,2 | Chapter 5, Problem 06. Write two versions of the program. One using only while loops and one only using do while loops. The program should loop until the user enters the correct data. Use test data as shown in the execution listing to the right. | *What is the speed of the vehicle in mph? -1*  *Please enter a non-negative number for speed: -2*  *Please enter a non-negative number for speed: 10*  *For how many hours has it traveled? 0*  *Please enter a 1 or greater for hours: 0*  *Please enter a 1 or greater for hours: 3*  *Hour Distance Traveled in Miles*  *----------------------------------*  *1 10*  *2 20*  *3 30*  *Press any key to continue . . .*  *What is the speed of the vehicle in mph? 20*  *For how many hours has it traveled? 3*  *Hour Distance Traveled in Miles*  *----------------------------------*  *1 20*  *2 40*  *3 60*  *Press any key to continue . . .* |
| 3 | Chapter 05, Problem 07, page 294   * Use a do-while loop for input validation * Use a for loop to calculate the pay increase and display the table | *For how many days will the pay double? -2*  *The number of days must be at least one.*  *Enter the number of days: -1*  *The number of days must be at least one.*  *Enter the number of days: 5*  *Day Total pay*  *---------------------------------*  *1 $ 0.01*  *2 $ 0.02*  *3 $ 0.04*  *4 $ 0.08*  *5 $ 0.16*  *---------------------------------*  *Total $ 0.31*  *Press any key to continue . . .* |
| 4 | Chapter 5, p. 295, Programming Challenges, Number 10:   * assume there are four months in a year * do no input validation * use only for loops and use nested loops * use the following test data:   + 3 years   + Year 1: 1, 2, 3, 4   + Year 2: 4, 5, 6, 7   Year 3: 1, 2, 3, 4 | *This program will calculate average rainfall over a*  *period of years. How many years do you wish to average? 3*  *Year 1*  *Number of inches of rain for month 1? 1*  *Number of inches of rain for month 2? 2*  *Number of inches of rain for month 3? 3*  *Number of inches of rain for month 4? 4*  *Year 2*  *Number of inches of rain for month 1? 4*  *Number of inches of rain for month 2? 5*  *Number of inches of rain for month 3? 6*  *Number of inches of rain for month 4? 7*  *Year 3*  *Number of inches of rain for month 1? 1*  *Number of inches of rain for month 2? 2*  *Number of inches of rain for month 3? 3*  *Number of inches of rain for month 4? 4*  *Over a period of 12 months, 42 inches of rain fell.*  *Average monthly rainfall for the period is 3.500 inches.*  *Press any key to continue . . .* |

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| **Notes** |
| 1. **In execution listing above, only one test value shown. You must show all test values in your submitted work.** 2. In the execution listing, numeric values don’t have to appear exactly as shown above. For example, $44.50 is OK instead of $44.5. 3. Make sure that you use good programming style and documentation. 4. Unless instructed otherwise, always use the test data described in the problem. 5. Copy and paste your execution and code listings into the *Homework Template* document. Please ensure that:    * Problems are in the order listed on the assignment sheet (I.E. Program #1 first, Program #2 second, etc.)    * The execution listing corresponds with the code listing. In other words, the code listing will produce the execution listing. If it does not, no credit will be received for that problem. 6. The work you submit must be your own. Please note that any of the following actions are considered cheating:    * Electronically copying or inserting any code that you did not create.    * Manually copying or inserting any code that you did not create. |