Operating System and Computer Architecture

Third Level IS Dept. sheet # 5 2017/2018

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1. Write a complete 80x86 assembly language program to prompt for values of x, y, and z and display the value of the expression: – (x + y – 2z + 1).
2. Write a complete 80x86 assembly language program to prompt for values of x, y, and z and display the value of the expression 2(x+y) + z.
3. Write a complete 80x86 assembly language program to prompt for the length and width of a rectangle and to display its perimeter (2*length + 2*width).
4. Suppose that someone has a certain number of coins (pennies, nickels, dimes, quarters, fifty-cent pieces, and dollar coins) and wants to know the total value of the coins, as well as how many coins there are. Write a complete 80x86 assembly language to help.
5. Write a complete 80x86 assembly language program to prompt for four grades and then display the sum and the average (sum/4) of the grades
6. Write a complete 80x86 assembly language program to prompt for four pairs of grades and weighting factors. Each weighting factor indicates how many times the corresponding grade is to be counted in the sum. The weighted sum is

   WeightedSum = Grade1 * Weight1
   + Grade2 * Weight2
   + Grade3 * Weight3
   + Grade4 * Weight4

   and the sum of the weights is

   SumOfWeights = Weight1 + Weight2 + Weight3 + Weight4

   Display the weighted sum, the sum of the weights, and the weighted average (WeightedSum/SumOfWeights). A sample run might look like

   grade 1? 88
   weight 1? 1
   grade 2? 77
   weight 2? 2
   grade 3? 94
   weight 3? 1
   grade 4? 85
   weight 4? 3

weighted sum: 591
sum of weights: 7
weighted average: 84
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