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Jhw89

EECS 349

HW 2 Part 3

1. The assembly creates 3 variables containing 3, 5, and 0. It moves 3 into eax, then does a signed multiplication onto eax with 5, so eax is 15. 15 is moved into edx. 3 is moved back into eax. Eax is moved into ecx. Ecx is shifted right all the way until the signed bit. Ecx is then added to eax which does not add any value since a positive sign is 0. Then the result is divided by two with a shift right. The result is subtracted from edx and then edx is moved into eax. Eax is moved into the third variable. Then the value is printed out.
2. The beginning of the code under the main method creates an array with a length of 7 values in it and two working variables. The first variable is used to save values and the 2nd variable is used as an index for looping through the array. 40157F is mainly used to check whether the loop has completed and once it has, the value in the first working variable will be printed. 401560 is used to do the work inside of the loop. It compares the first working variable to the current value of the array. If the value of the array Is less than the one in the variable, then it will increment the index and move to the next value. If the value is greater than the one in the variable it will put that value into the variable. The program runs until the entire array has been gone through and prints the maximum value of the array.
3. The code creates an index variable that is repeatedly referenced in the while loop. The loop loops 899 times. The first block with 51EB851Fh is to divide by 100. The constant 66666667h is used to divide by 10. The block using it first multiplies the previous result by -100 and then adds the index and divides by 10. The next block using that constant divides the number by 10, then shifts left by two, essentially multiplying by 4, and then adds that result onto itself, making the overall multiplication 5. Afterwards, it multiplies by 2 again and subtracts the total from the index. In the end, it multiplies all 3 parts by themselves 3 times and if the result equals the index, it prints the value, if not it iterates.