

1. See attached file. Cracked by changing the a flag to 1 in order to always make the software jump to the good screen.
2. There are two main parts of this program. The first function capitalizes all of the letters from the username you input. Then the program adds up the hex ascii values of your input and xors the result with the value 5678h and stores that. The second part of this program handles the password you put in. It turns it from decimal to hex then xors with the value 1234h. This means that to get the right password for your username, you first have to take the letters of the username and add up their hex ascii values. Then you xor the result with 5678h. Afterwards, to xor that with 1234h and convert the result to a decimal. This means that for my name(Luca), the correct serial value is acquired as follows:
  - a. Take the sum of L(4c) U(55) C(43) A(41) which is equal to 125h.
  - b. XOR 125h and 5678h to get the result of 575dh.
  - c. XOR 575dh with 1234h which gives 4569h
  - d. Convert 4569h to decimal to get 17769 which is the right answer for my name.