COMPUTER ARCHITECTURES (02LSEOV)

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Problem solving session nº4
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1. Configure the 8255 in mode 1, input for group A. Write the interrupt service routine for coping a sequence of ASCII characters read from group A of the 8255 in the array `myWord`. Only characters corresponding to lowercase and uppercase letters are copied, whereas the others are ignored. The variable `count` is used to memorize the number of copied characters.

2. Configure the 8255 in mode 1, output for group A. Write the interrupt service routine for writing the variable `myNumber` on port A. `myNumber` is a doubleword variable and it should be written starting from the most significant byte.
   A software interrupt, by means of INT instruction, can be used for printing the first byte.

3. Configure the 8255 in mode 1, input for group A. Write an interrupt service routine that performs the following tasks:
   - it reads a byte from port A
   - it groups every pair of byte into a word, where the first received byte is the most significant one
   - it copies the words in either one of two arrays, `evenArray` and `oddArray`, depending if the numbers are even or odd.

   The interrupt service routine uses the following variables:
   - `evenArray DW DIM DUP (?)`
   - `oddArray DW DIM DUP (?)`
   - `evenIndex DB 0`
   - `oddIndex DB 0`

   where `DIM` is a constant equal to or lower than 255 (its value is defined by the programmer). `evenIndex` and `oddIndex` contains the index of the next element that will be written inside the arrays. If an array becomes full, the next element will be written at position 0 (like in a circular buffer).

   Example:
   Sequence of character received on port A: 01, 0A, 31, 28, 33, 45
   `evenArray`: 010A, 3128
   `oddArray`: 3345