**Array Sorter**

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Sorting is one of the key functions in many applications such as digital signal processing, decoders for digital communications etc. The traditional sorting algorithms in software are executed as one operation per cycle. In hardware we can perform some of these operations like swapping the registers simultaneously. Even-odd sorting algorithm can be used to exploit the power of parallel operations in hardware.

This algorithm will be implemented on Deo-Nano Soc board using VHDL. The system includes LCD touch module, accelerometer. The user interacts with the system through the Terasic LT24 LCD touch module. The user has to enter N numbers as input. Each number is an unsigned integer of 8-bits. Then the sorting is done and the results are displayed on the LCD screen. The order of the sorting can be changed from ascending to descending or vice versa by triggering the system using the accelerometer.