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MSL: An Efficient Adaptive In-Place Radix Sort Algorithm

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Abstract: This paper presents an in-place pseudo linear average case radix sorting algorithm. The proposed algorithm, MSL (Map Shuffle Loop) is a modification of the ARL algorithm. The MSL permutation loop is faster than the ARL counterpart since it searches for the root of the next permutation cycle group by group. The permutation cycle loop maps a key to its target group and shuffles the input array. The performance of MSL is compared with Java quicksort, as well as MSD and LSD radix sorting algorithms.