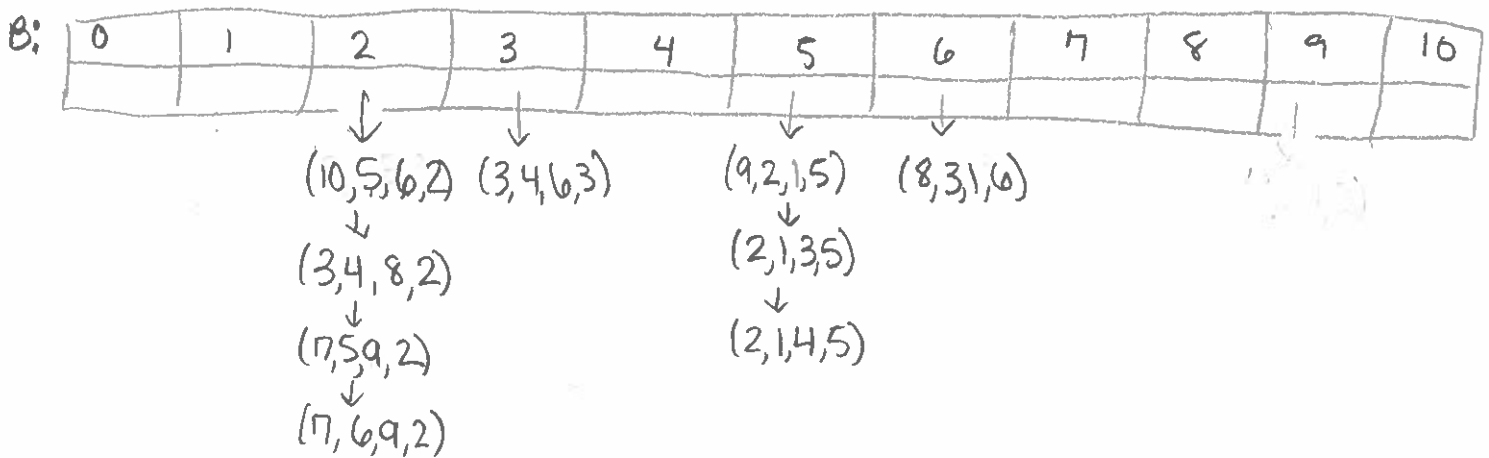


Illustrate the execution of RADIX Sort on the following input S of 4-tuples of keys  $(k_1, k_2, k_3, k_4)$

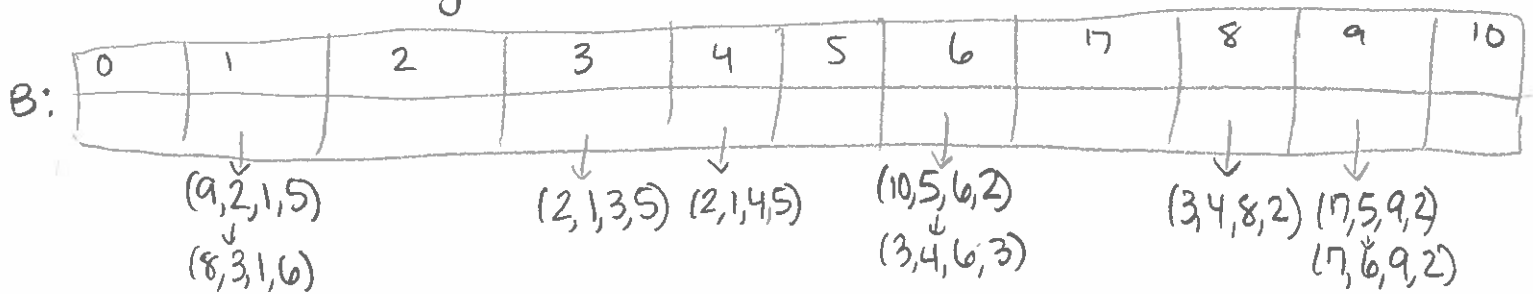
S:  $(9, 2, 1, 5), (2, 1, 3, 5), (10, 5, 6, 2), (3, 4, 8, 2), (3, 4, 6, 3), (7, 5, 9, 2), (8, 3, 1, 6), (2, 1, 4, 5), (7, 6, 9, 2)$

Step 1: Construct B using  $k_4$



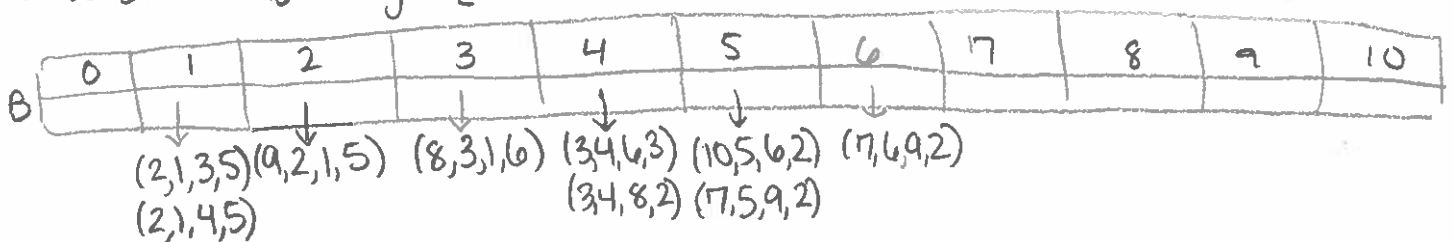
Step 2: Use sequence sorted by  $k_4$ , which is now

$(10, 5, 6, 2), (3, 4, 8, 2), (7, 5, 9, 2), (7, 6, 9, 2), (3, 4, 6, 3), (9, 2, 1, 5), (2, 1, 3, 5), (2, 1, 4, 5), (8, 3, 1, 6)$  to construct B using  $k_3$



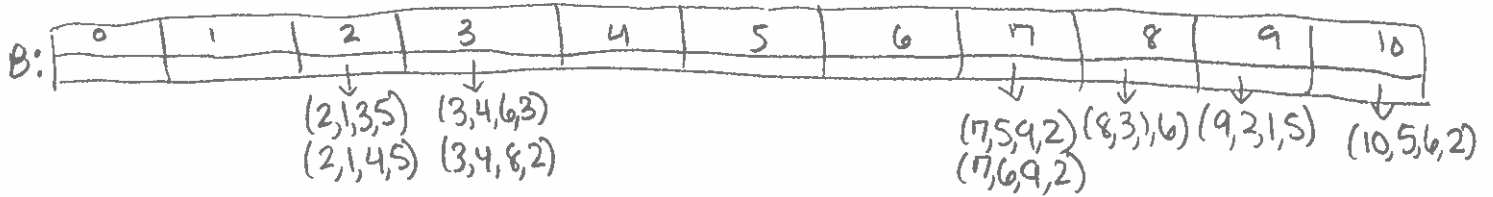
Step 3: Use sequence sorted by  $k_3$ , which is now

$(9, 2, 1, 5), (8, 3, 1, 6), (2, 1, 3, 5), (2, 1, 4, 5), (10, 5, 6, 2), (3, 4, 6, 3), (3, 4, 8, 2), (7, 5, 9, 2), (7, 6, 9, 2)$  to construct B using  $k_2$



Step 4: Use sequence sorted by  $k_2$ , which is now

$(2,1,3,5)$ ,  $(2,1,4,5)$ ,  $(9,2,1,5)$ ,  $(8,3,1,6)$ ,  $(3,4,6,3)$ ,  $(3,4,8,2)$ ,  $(10,5,6,2)$ ,  $(7,5,9,2)$ ,  $(7,6,9,2)$   
to construct B using  $k_1$ ,



Resulting sequence is:

$(2,1,3,5)$ ,  $(2,1,4,5)$ ,  $(3,4,6,3)$ ,  $(3,4,8,2)$ ,  $(7,5,9,2)$ ,  $(7,6,9,2)$ ,  $(8,3,1,6)$ ,  $(9,2,1,5)$ ,  $(10,5,6,2)$ .