Top K most Frequent elements

Define Dictionary:

$A[x] = f_x$ (x)

$B[f] =$ x | y | ... | z

Where f is the frequency of any elements x,y,...z in input array

x1 x2 ... xn

For each X_i

if key x_i in A **else add key-value pair (x_i, 1)**

A = f_0 | f_1 | ... | f_{xi} | ... | f_{xi}

0 1

f_{xi} += 1 increment value f_{xi} at key x_i in A by 1

we essentially map each unique element from input array to its frequency in input array

For each key-value pair (x_i, f_{xi})

append value x_i to array stored at index f_{xi} in B

$B[f_{xi}] =$ x | y | ... | z | x_i

B =

Keep Popping

To get the top K most frequent elements begin **popping** the arrays of values from the end of dictionary B until K values have been **popped** from it

Then....

Keep Popping

Pop