1. WAP that takes n integer numbers, sorts them using Quick sort.

| **Sample input** | **Sample output** |
| --- | --- |
| 5  6 2 3 3 5 | 2 3 3 5 6 |
| 6  5 6 7 8 0 1 | 0 1 5 6 7 8 |

1. WAP that takes n integer numbers, where each of the numbers are non-negative and < n. You have to sort the numbers in O(n).

| **Sample input** | **Sample output** |
| --- | --- |
| 5  4 2 3 3 0 | 0 2 3 3 4 |
| 6  1 0 4 2 3 0 | 0 0 1 2 3 4 |

Hint: As all the numbers are <n so you can track the frequency of each number. Then Iterate from 0 to n-1 and output the numbers. This kind of sorting is called counting sort.

1. Why do you think linked-list requires more memory than an array when storing the same number of elements?