**Asymptotic Analysis**

1. ***Space complexity*** : As Dr. Mamoun Nawahdah explained that nowadays the space ( memory and storage Hard Drives) have low cost so the attention will be focused on time complexity.

2. ***Time complexity*** : The Radix Sort LSD algorithm is considered as one of the linear sort algorithms. It doesn’t use compare strings, but moving the words depending on the last character to the bucket for that character and so on for all the elements of the list.

Next moving the words in order from the buckets

To the list and repeating the process for the next character ……. Till the first one.

The time will depend on N – count of words and W the maximum length word

T = F(N,W) and it is linear

Big notation of N\*W – Big O (NW) -🡪 Constant

Running time of 11 words --🡪 1 ms.

Running time of 100 words --🡪 3 ms.

Running time of 1000 words --🡪 47 ms.

Running time of 18239 words --🡪 about 15700 ms.

The time elapsed is acceptable.