**Radix Sort** **Algorithm Analysis**

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| **Input Size** | **String Size** | **Radix using Insertion Sort (ms)** | **Radix using Count Sort**  **(ms)** |
| 100000 | 25 | 81 | 1549 |
| 50 | 872811 | 4772 |
| 75 | Taking more than 5 min | 7782 |
| 250000 | 25 | Taking more than 5 min | 5122 |
| 50 | Taking more than 5 min | 14839 |
| 75 | Taking more than 5 min | 22557 |
| 500000 | 25 | Taking more than 5 min | 1515 |
| 50 | Taking more than 5 min | 30929 |
| 75 | Taking more than 5 min | 50373 |
| 750000 | 25 | Taking more than 5 min | 22682 |
| 50 | Taking more than 5 min | 50147 |
| 75 | Taking more than 5 min | 76310 |
| 1000000 | 25 | Taking more than 5 min | 31458 |
| 50 | Taking more than 5 min | 61590 |
| 75 | Taking more than 5 min | 95814 |

Analysis: I am running both the algorithms on my virtual machine. I was getting lots of configuration issues working on windows, so I opted for ubuntu.

1. Radix sort using insertion sort is taking very long time and I am not able to compute running time and my machine was getting hanged.
2. At the same time Radix sort using counting sort with the same input is working smoothly and taking much less time than insertion sort to sort the input.
3. Running time depends upon input parameters. When the size of input increase sorting taking much more time for both the algorithm.