

| k values | l values | Clustering | | | Random(average of seed=2,3,4) | | | Bottom-up | | |
|----------|----------|------------|---------|------|-------------------------------|---------|-------|-----------|---------|------|
| | | MD | LM | Time | MD | LM | Time | MD | LM | Time |
| 4 | 1 | 25906 | 630.30 | 50 s | 37568 | 1901.16 | 53 ms | 179982 | 9367.74 | 33 s |
| 8 | 1 | 37045 | 1087.89 | 49 s | 21071 | 1106.42 | 51 ms | 179982 | 9367.74 | 32 s |
| 16 | 1 | 47788 | 1678.82 | 50 s | 11145 | 584.93 | 52 ms | 179982 | 9367.74 | 31 s |
| 32 | 1 | 59032 | 2382.27 | 50 s | 5795 | 302.67 | 51 ms | 179982 | 9367.74 | 30 s |
| 64 | 1 | 70973 | 3182.47 | 52 s | 2962 | 155.23 | 52 ms | 179982 | 9367.74 | 31 s |
| 128 | 1 | 81296 | 3905.24 | 55 s | 1500 | 78.84 | 51 ms | 179982 | 9367.74 | 32 s |
| 256 | 1 | 88456 | 4437.52 | 56 s | 760 | 40 | 52 ms | 179982 | 9367.74 | 33 s |

| k values | l values | Bottom-up | | |
|----------|----------|-----------|---------|------|
| | | MD | LM | Time |
| 16 | 1 | 179982 | 9367.74 | 30 s |
| 16 | 2 | 179982 | 9367.74 | 30 s |
| 16 | 3 | 179982 | 9367.74 | 30 s |
| 16 | 4 | 179982 | 9367.74 | 30 s |
| 16 | 5 | 179982 | 9367.74 | 31 s |
| 16 | 6 | 179982 | 9367.74 | 30 s |
| 16 | 7 | 179982 | 9367.74 | 32 s |
| 16 | 8 | 179982 | 9367.74 | 32 s |

When we compare it in terms of speed: **Random > Bottom_up > Clustering**, the result was frankly what I expected because random_anonymizer uses a simpler algorithm. For high k values, random anonymizer worked at very low cost, which frankly surprised me. I think bottom_up is very expensive in terms of cost. If I were to choose one personally, I would choose random because of its speed and cost efficiency. I would like to mention the performance of clustering at low k values. At low k values, that is, k = 4, 8, it was the one that gave the least cost. But if I care about l-diversity, we should definitely choose bottom_up because, as we learned in the course, there are situations that k-anonymity cannot handle, such as homogeneity attacks and attacks made with background knowledge. L-diversity is offered as a solution to these kind of situations.

Gülnisa Yıldırım

76401