SUMMARY

USC ID/s:

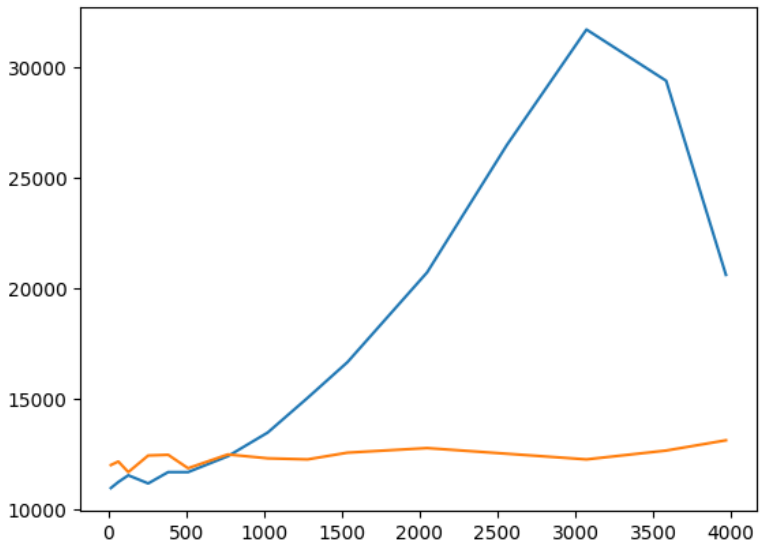
3767844429
9521202331

Datapoints

M+N	Time in MS (Basic)	Time in MS (Efficient)	Memory in KB (Basic)	Memory in KB (Efficient)
16	0.06389617919921875	0.17881393432617188	10976	12016
64	0.6361007690429688	1.9850730895996094	11248	12176
128	2.3508071899414062	7.283210754394531	11552	11696
256	9.13095474243164	23.714065551757812	11184	12448
384	19.037961959838867	47.94001579284668	11696	12480
512	31.6159725189209	81.77804946899414	11696	11872
768	65.34814834594727	178.1461238861084	12416	12496
1024	110.83698272705078	306.0750961303711	13488	12320
1280	172.868013381958	501.6160011291504	15056	12272
1536	243.7739372253418	684.2639446258545	16672	12576
2048	433.01892280578613	1207.2718143463135	20736	12784
2560	680.4287433624268	1871.5667724609375	26496	12528
3072	957.3462009429932	2663.3288860321045	31728	12272
3584	1332.270860671997	3623.5570907592773	29408	12672
3968	1649.3370532989502	4458.108901977539	20624	13136

Insights

Graph1 – Memory vs Problem Size (M+N)



Nature of the Graph (Logarithmic/ Linear/ Exponential)

Basic: Polynomial (blue)

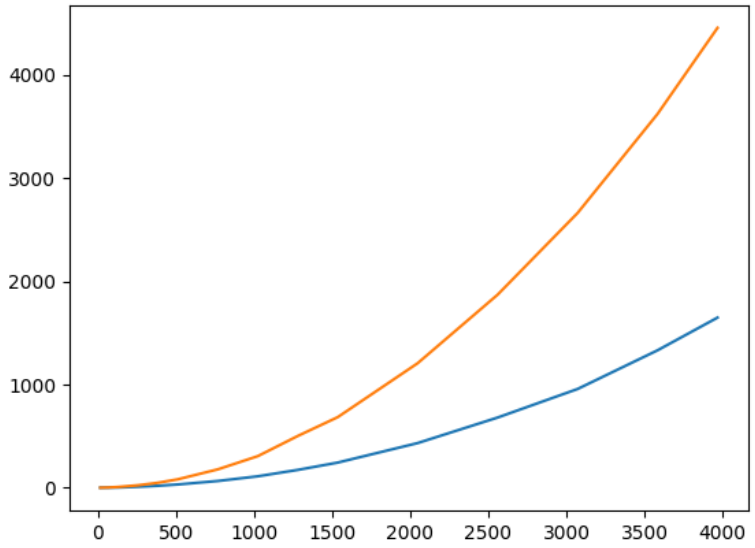
Efficient: Linear (orange)

Explanation:

Basic: Algorithm requires m x n memo table.

Efficient: Algorithm requires 2 x m memo table.

Graph2 – Time vs Problem Size (M+N)



Nature of the Graph (Logarithmic/ Linear/ Exponential)

Basic: Polynomial (blue)

Efficient: Polynomial (orange)

Explanation:

Basic: Algorithm requires m x n operations.

Efficient: Algorithm requires constant x m x n operations.

Contribution

(Please mention what each member did if you think everyone in the group does not have an equal contribution, otherwise, write “Equal Contribution”)

3767844429: Equal Contribution

9521202331: Equal Contribution