

SUMMARY

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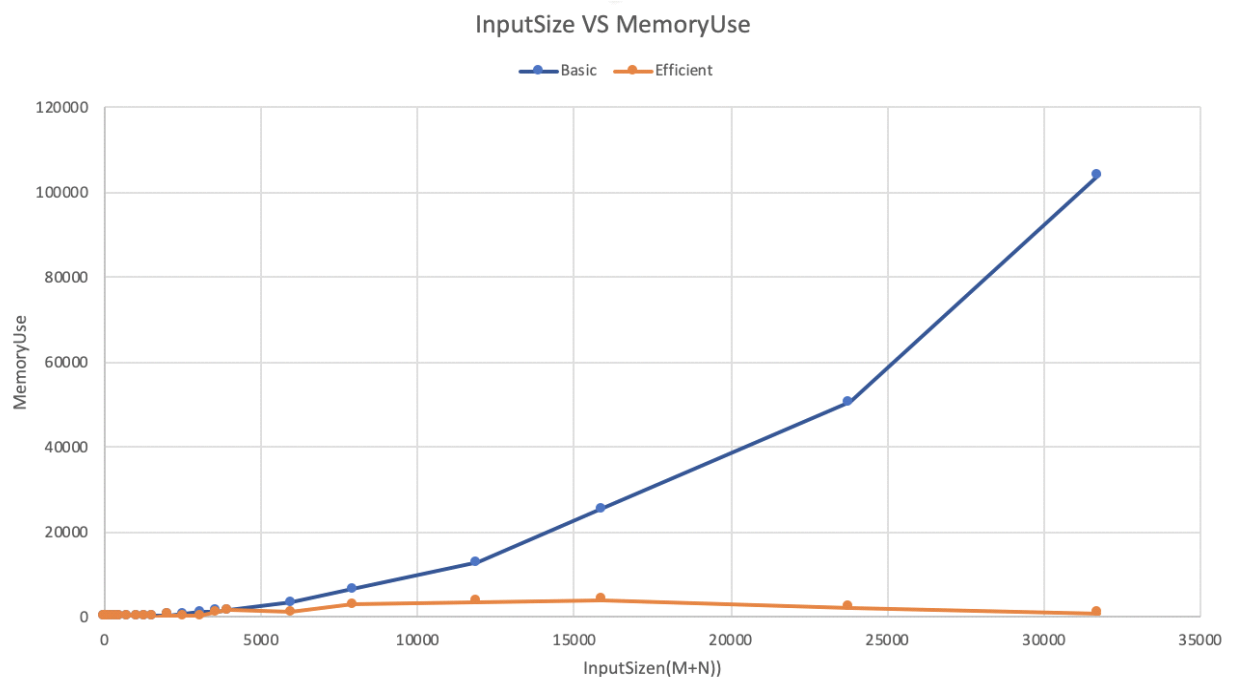
M+N	Time in MS (Basic)	Time in MS (Efficient)	Memory in KB (Basic)	Memory in KB (Efficient)
16	0.31967999995686114	0.4545799996703863	0	0.0
64	0.35597999999299645	0.5271000005304813	0	0.0
128	0.46522000012919307	0.7177400011569262	0	4.1959
256	0.7727099999319762	1.448819998651743	4.2472	16.8856
384	1.3253599999006838	1.7562600001692772	13.1352	42.3856
512	1.910630000056699	2.2740099988877773	25.7904	72.1512
768	2.5691500001121312	4.072189999744296	60.7752	151.7055
1024	2.762129999930039	4.070840001106262	108.8224	81.644
1280	3.4096599998883903	5.817570000886917	164.8792	208.6679
1536	3.2533200001344085	5.905169999226928	245.1912	21.9496
2048	4.157409999985248	7.952419999986887	424.2544	412.4248
2560	4.656169999856502	9.777480000630021	690.3408	80.6776
3072	5.190560000017285	12.43914999999106	973.3824	260.3936
3584	5.700900000054389	12.66402000002563	1319.976	1045.7432
3968	6.600309999892488	15.571239998564124	1606.1064	1571.732
5962	10.712380001321435	27.750159999355674	3217.848	1048.7024
7936	18.72484999895096	46.60875999927521	6418.2664	2935.5136
11904	32.923190001398325	82.68386000022292	12853.228	3464.0144
15872	60.55853000096977	164.07137000001967	25326.0152	3880.7512
23808	118.69921000115573	316.1862100008875	50551.3544	2157.5512
31744	239.1726099997759	631.1943499986082	104031.16	855.4408

Datapoints

Note!!!: We've added six additional data points to make our graph more appropriate.

Insights

Graph1 – Memory vs Problem Size (M+N)



Nature of the Graph (Logarithmic/ Linear/ Exponential)

Basic: Polynomial

Efficient: Linear

Explanation:

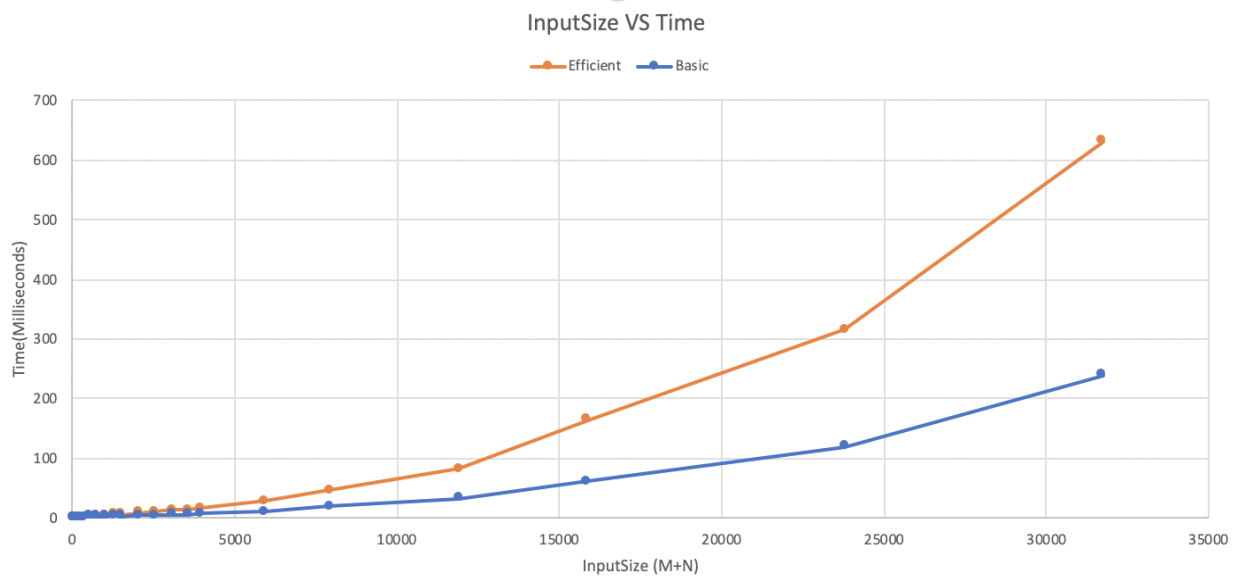
Given m = input size of String1, n = input size of String2

Space complexity of Basic: $O(mn)$

Space complexity of Efficient: $O(m+n)$

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Graph2 – Time vs Problem Size (M+N)



Nature of the Graph (Logarithmic/ Linear/ Exponential)

Basic: Polynomial

Efficient: Polynomial

Explanation:

Given m = input size of first String, n = input size of second String, C is some constant

Time complexity of Basic = $Cmn = O(mn)$

Time complexity of Efficient = $2Cmn = O(mn)$

Contribution

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

<USC ID/s>: <Equal Contribution>

4893231042: Equal Contribution

7451610472: Equal Contribution

9600542652: Equal Contribution