

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
DP Calories	762	1556	2207	3089	3761	4573
Greedy 1 with BF Calories	760	1554	2207	3087	3759	4573
Greedy 1 with DP Calories	761	1556	2207	3089	3761	4573
Greedy 2 Calories	760	1555	2207	3089	3761	4573
DP Steps	102410	404810	907210	1609610	2512010	3614410
Greedy 1 with BF Steps	2809	3094	1064	5311	6921	2008
Greedy 1 with DP Steps	12069	22461	35566	38711	61509	54166
Greedy 2 Steps	2098	7922	17494	30816	47897	68671

Comparison between (Greedy method 1 with DP) and DP

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
Optimal Calories (%)	99.87%	100.00%	100.00%	100.00%	100.00%	100.00%
Optimal Time (%)	11.78%	5.55%	3.92%	2.40%	2.45%	1.50%

Comparison between (Greedy method 2) and DP

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
Optimal Calories (%)	99.74%	99.94%	100.00%	100.00%	100.00%	100.00%
Optimal Time (%)	2.05%	1.96%	1.93%	1.91%	1.91%	1.90%

Comparison between (Greedy method 1 with BF) and DP

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
Optimal Calories (%)	99.74%	99.87%	100.00%	99.94%	99.95%	100.00%
Optimal Time (%)	2.74%	0.76%	0.12%	0.33%	0.28%	0.06%

Comparing the greedy methods results with the dynamic programming method (an optimal method), we find that (Greedy Method 1 with DP) gives the best results, followed by (Greedy Method 2), and then (Greedy Method 1 with BF).

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Comparison between Greedy method 2 and Greedy method 1 with BF

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
Calories improvment (%)	0.00%	0.06%	0.00%	0.06%	0.05%	0.00%
Time improvment (%)	25.31%	-156.04%	-1544.17%	-480.23%	-592.05%	-3319.87%

Comparison between Greedy method 2 and Greedy method 1 with DP

N/Limit	50 / 500	100 / 1000	150 / 1500	200 / 2000	250 / 2500	300 / 3000
Calories improvment (%)	-0.13%	-0.06%	0.00%	0.00%	0.00%	0.00%
Time improvment (%)	82.62%	64.73%	50.81%	20.39%	22.13%	-26.78%

When comparing (greedy method 2) with (greedy 1 with BF), we see that there is a slight improvement in performance, the time taken however is greater. The comparison between (greedy method 2) and (greedy method 1 with DP) shows that there is a slight decrease in performance, but the time taken is relatively less. BF time complexity is $O(n^n)$, DP time complexity is $O(n \times \text{limit})$, Greedy 2 time complexity is (n^2) . Conclusion, (greedy method 2) falls between (greedy method 1 with BF) and (greedy method 1 with DP) in both performance and speed.