

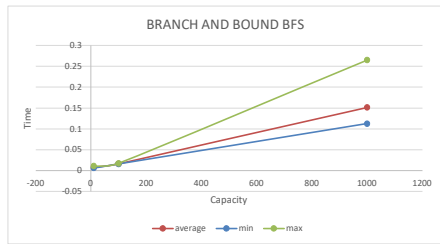
# BRANCH AND BOUND BFS

Time			
min	max	average	capacity
0.006006479	0.010942936	0.007779217	995
0.015915632	0.017464161	0.016506791	1008
0.112696648	0.265291929	0.151593924	2543

nb item
100
200
500

memory usage		
min	max	average
0.004948	0.00642	0.0050952
0.005012	0.016967	0.0066048
0.005012	0.008444	0.0065616

solution	optimum	diff
1473	9147	7674
868	11238	10370
1649	28857	27208



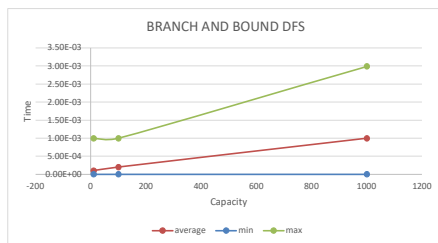
# BRANCH AND BOUND DFS

Time			
min	max	average	capacity
0	0.00099659	9.97E-05	995
0	0.00099802	0.000199461	1008
0	0.002991199	0.000996184	2543

nb item
100
200
500

memory usage		
min	max	average
7.20E-05	0.00012	0.0001152
0.002424	0.002424	0.002424
0.002424	0.002424	0.002424

solution	optimum	diff
9279.645	9147	-132.645
11391.43	11238	-153.43
28916.01	28857	-59.008



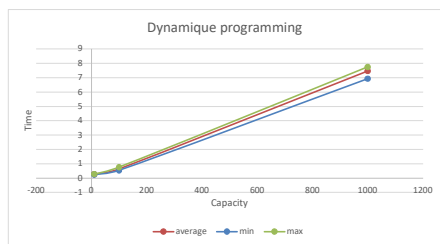
# Dynamic Programming

Time			
min	max	average	capacity
0.254930258	0.287233114	0.273203397	995
0.539556026	0.762890577	0.643191266	1008
6.935338259	7.747884035	7.472319984	2543

nb item
100
200
500

memory usage		
min	max	average
0.002465	0.004951	0.0038085
0.005099	0.005451	0.0053029
0.005271	0.005618	0.0054548

solution	optimum	diff
9147	9147	0
11238	11238	0
28857	28857	0



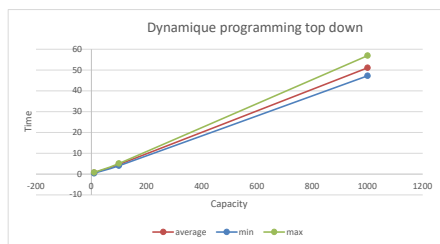
# Dynamic Programming TOP DOWN

Time			
min	max	average	capacity
0.470918417	0.898860693	0.723659444	995
4.087184668	5.186968803	4.658487153	1008
47.20030904	56.9156332	51.06094961	2543

nb item
100
200
500

memory usage		
min	max	average
1.499196	1.524228	1.5217011
12.996733	13.02221	13.0195443
116.913196	116.938618	116.9359863

solution	optimum	diff
9147	9147	0
11238	11238	0
28857	28857	0



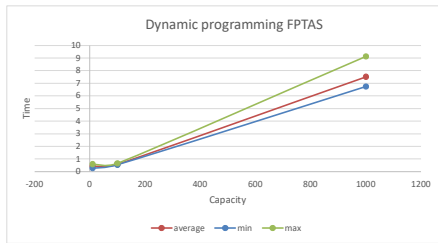
# Dynamic Programming FPTAS

Time			
min	max	average	capacity
0.286235094	0.598912477	0.438628531	995
0.545519114	0.66044426	0.58974309	1008
6.738629103	9.130451202	7.517919397	2543

nb item
100
200
500

memory usage		
min	max	average
0.005134	0.008052	0.0054699
0.007822	0.0117	0.0082848
0.007996	0.011812	0.0084161

solution	optimum	diff
1829	9147	7318
4500	11238	6738
28890	28857	-33

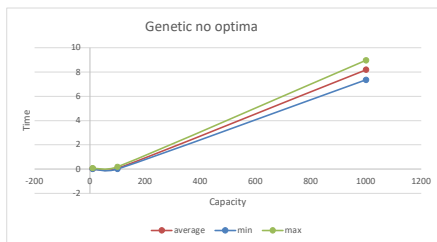


#### Genetic No optima ( PAS DE LARGE )

Time			
min	max	average	capacity
0.008974314	0.081758499	0.026781416	995
0.01	0.187499046	0.068376169	1008
7.352202892	8.962793589	8.18460834	2543

nb item
100
200
500

memory usage		
min	max	average
4.58E-03	0.010295	5.06E-03
0.004576	0.007985	0.00540888
5.40E-03	0.005766	5.59E-03



#### Greedy value

Time			
min	max	average	capacity
0.003982544	0.009979963	0.006943655	995
0.005983829	0.008974791	0.00747993	1008
0.018946886	0.021942139	0.020146656	2543

nb item
100
200
500

memory usage		
min	max	average
0.002672	0.005904	0.0029952
0.002672	0.005904	0.0029952
0.002672	0.005904	0.0029952

solution	optimum	diff
2983	9147	6164
4544	11238	6694
9952	28857	18905



#### Greedy weight

Time			
min	max	average	capacity
0.002991915	0.009542465	0.004897976	995
0.005983591	0.00797987	0.007280397	1008
0.017953157	0.027925491	0.020645618	2543

nb item
100
200
500

memory usage		
min	max	average
0.002672	0.004144	0.0028192
0.00248	0.010171	0.0036603
0.002608	0.010411	0.0034395

solution	optimum	diff
2515	9147	6632
3285	11238	7953
7936	28857	20921



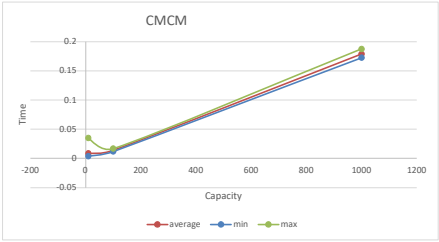
#### RANDOM CMC

Time			
min	max	average	capacity
0.003989697	0.035052061	0.00881114	995
0.011967182	0.016954899	0.013863182	1008
0.172566891	0.187526703	0.178924489	2543

nb item
100
200
500

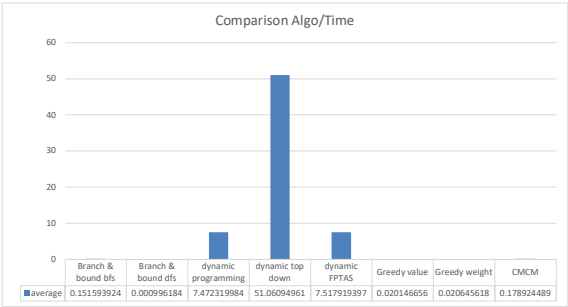
memory usage		
min	max	average
0	2.80E-05	2.80E-05
0	2.80E-05	2.52E-05
2.80E-05	0.000684	0.0005224

solution	optimum	diff
324	9147	8823
479	11238	10759
1363	28857	27494



COMPARISON ALGORITHM / TIME

capacity of the problem	
2543	
algo	average
Branch & bound bfs	0.151593924
Branch & bound dfs	0.000996184
dynamic programming	7.472319984
dynamic top down	51.06094961
dynamic FPTAS	7.517919397
Greedy value	0.020146656
Greedy weight	0.020645618
CMCM	0.178924489



COMPARISON ALGORITHM / SOLUTION / OPTIMAL SOLUTION

Algo	solution
Branch & bound bfs	1649
Branch & bound dfs	28916.008
dynamic programming	28857
dynamic top down	28857
dynamic FPTAS	28890
Greedy value	9952
Greedy weight	7936
CMCM	1363
Optimum	28857

