Datasets	20% $\|G\|$							40% $\|G\|$							60% $\|G\|$						
	Dec	BIns	UBIns	SIns	BDel	UBDel	SDel	Dec	BIns	UBIns	SIns	BDel	UBDel	SDel	Dec	BIns	UBIns	SIns	BDel	UBDel	SDel
EM	4.63	2.650	4.059	3.414	2.176	2.580	2.392	6.019	4.132	5.846	5.130	3.263	3.718	3.678	7.338	5.598	7.853	6.502	4.042	4.885	4.777
EAT	11.077	6.391	9.954	8.087	5.160	6.003	5.827	13.476	9.264	13.172	11.332	7.362	8.477	8.255	15.463	11.450	16.301	13.584	8.799	10.235	9.965
TW	1190.986	676.166	1049.071	848.005	550.038	653.044	619.926	1476.170	1011.679	1438.548	1238.316	803.577	925.873	901.748	1720.738	1311.226	1796.079	1477.256	980.015	1144.962	1098.633
YL	3105.197	1789.572	2721.244	2287.640	1421.660	1680.360	1591.702	3254.196	2258.222	3148.370	2718.616	1748.170	2022.242	1974.474	3397.726	2575.579	3559.089	3003.852	1867.673	2231.081	2201.932
BS	9744.921	5709.015	8853.107	6986.117	4509.224	5456.661	5043.392	10192.589	7006.375	9817.842	8523.875	5373.945	6379.806	6054.470	10576.244	7913.887	11167.407	9294.686	5904.227	7094.618	6887.512
WK	10296.203	5924.997	9238.392	7439.930	4854.463	5572.380	5370.349	12175.882	8293.660	11966.173	10382.011	6463.548	7594.348	7363.842	13615.591	10067.879	14237.459	11604.666	7651.027	9085.712	8876.901

Table 3: Effect of $|G|$ over the MDM problem (20%, 40%, 60%) (in seconds)

Datasets	80% $\|G\|$							100% $\|G\|$						
	Dec	BIns	UBIns	SIns	BDel	UBDel	SDel	Dec	BIns	UBIns	SIns	BDel	UBDel	SDel
EM	8.274	6.432	9.898	7.366	4.573	5.661	5.387	9.238	7.584	11.392	8.099	5.116	6.582	6.087
EAT	16.910	13.271	20.050	15.088	9.327	11.896	11.378	18.222	14.960	22.471	15.976	10.092	12.984	12.007
TW	1920.668	1521.959	2316.061	1656.369	1059.121	1326.857	1288.713	2127.686	1746.831	2623.904	1865.492	1178.389	1516.169	1402.030
YL	3491.663	2682.178	4150.409	3016.033	1907.923	2384.361	2276.103	3598.377	2954.269	4437.589	3154.951	1992.910	2564.170	2371.137
BS	10873.887	8596.168	13009.728	9611.254	5880.6511	7643.989	7117.2071	11108.712	9120.257	13699.484	9739.794	6152.405	7915.965	7320.044
WK	14807.347	11624.231	17643.314	12904.573	8135.638	10331.551	9833.399	15876.933	13034.969	19579.749	13920.431	8793.218	11313.755	10462.045

Table 4: Effect of $|G|$ over the MDM problem (80%, 100%) (in seconds)

Datasets	$\|Q\|$ = 1				$\|Q\|$ = 2				$\|Q\|$ = 4				$\|Q\|$ = 6				$\|Q\|$ = 8			
	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry
EM	10.571	6.297	6.137	5.792	10.480	6.700	6.446	6.022	10.844	6.832	6.209	5.938	10.905	7.166	6.450	6.208	11.215	7.391	6.615	6.225
EAT	20.464	12.408	12.268	11.395	20.824	13.523	12.635	11.801	21.245	13.654	12.315	11.758	21.318	14.095	12.773	12.013	22.122	14.580	13.048	12.280
TW	2473.637	1490.829	1429.961	1304.351	2492.201	1540.196	1438.467	1347.026	2431.275	1541.042	1454.228	1397.892	2501.221	1645.133	1486.111	1429.932	2583.163	1702.482	1523.609	1433.952
BS	12498.645	7641.118	7270.562	7002.050	12970.103	8213.379	7738.437	7125.749	13015.168	8250.988	7492.058	7307.537	13275.676	8424.739	7835.711	7374.826	13486.775	8888.710	7954.809	7486.708
WK	18057.459	10751.690	10406.373	10068.178	18276.293	11849.123	10838.649	10304.713	18490.164	11620.224	10947.426	10152.425	19111.553	12091.210	11161.160	10488.074	19275.738	12704.034	11369.272	10700.247
PK	8420.167	6685.23	6554.695	6489.817	8571.399	6928.545	6687.003	6517.540	8517.907	6939.382	6720.257	6536.877	8697.610	7072.065	6693.579	6567.954	8766.566	7141.153	6811.020	6645.546
DL*	21344.518	12840.585	12645.916	11780.132	21601.417	13904.870	12978.017	11972.102	22326.378	14058.550	12988.249	12234.190	22928.838	14458.090	13139.266	12496.668	23098.819	15223.708	13624.214	12822.496

Table 5: Effect of $|Q|$ over the MDSM problem (in seconds)

Datasets	$\|\Delta Q\|$ = −3				$\|\Delta Q\|$ = −1				$\|\Delta Q\|$ = 0				$\|\Delta Q\|$ = 1				$\|\Delta Q\|$ = 3			
	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry
EM	11.786	8.650	8.301	8.107	11.650	8.779	8.407	8.404	11.473	9.050	8.546	8.512	16.468	8.858	8.410	8.193	11.544	8.983	8.649	8.373
EAT	32.294	27.341	26.904	25.767	33.071	26.760	26.634	25.933	32.605	27.518	26.462	26.549	31.998	27.693	27.104	25.988	32.633	27.582	26.923	26.379
TW	3727.216	3240.764	3051.461	3087.357	3845.819	3205.783	3071.942	3090.025	3864.930	3142.400	3125.176	3105.605	3797.476	3184.814	3120.567	3052.524	3810.474	3220.609	3143.693	3080.252
YL	6534.186	5463.692	5175.539	5154.985	6427.678	5445.275	5234.636	5153.707	6517.836	5361.362	5330.166	5209.749	6557.256	5451.045	5333.651	5179.491	6444.336	5446.745	5316.664	5209.371
BS	12880.979	11502.087	11587.461	11256.313	12832.844	11917.731	11432.700	11307.818	13120.749	11761.953	11519.116	11571.411	12501.099	11374.370	11022.534	11192.462	12460.250	11395.900	11210.936	11097.495
PK	6929.313	5987.772	5721.070	5671.225	7133.862	5821.552	5695.809	5731.835	6967.050	5871.380	5878.496	5606.346	7140.119	5915.039	5906.801	5595.295	7032.729	5944.055	5802.096	5685.008
DL*	22116.100	18551.963	17853.222	17782.002	22419.016	18582.131	18035.251	17775.736	22044.489	18924.276	18011.833	18083.820	21671.934	18408.986	18487.955	18115.828	22096.696	18676.104	18230.072	17862.182

Table 6: Effect of $|\Delta Q|$ over the MDSM problem (in seconds)

Datasets	c = 0.1				c = 0.3				c = 0.5				c = 0.7				c = 0.9			
	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry
EM	11.071	10.158	9.861	10.047	10.931	10.086	10.057	10.00	11.009	10.263	9.978	10.019	10.851	9.650	9.628	9.423	10.725	9.809	9.650	9.552
EAT	21.897	19.888	19.418	19.140	21.917	20.066	19.710	19.698	21.829	20.236	19.998	19.714	21.452	19.528	18.998	19.084	21.156	19.349	19.035	18.843
TW	2532.615	2274.564	2296.043	2278.217	2569.143	2355.879	2273.842	2234.787	2599.035	2302.136	2333.607	2250.989	2465.975	2259.531	2187.234	2209.702	2470.322	2259.308	2222.638	2200.147
YL	4258.967	3991.154	3802.121	3831.568	4372.292	3940.919	3921.897	3897.566	4362.082	4015.298	3916.292	3913.840	4268.224	3817.316	3747.545	3662.462	4177.848	3820.978	3758.961	3720.925
WK	19259.876	17195.949	17411.588	17138.912	19365.826	17310.797	16992.762	16876.550	18855.410	17264.810	17433.717	17323.484	18572.889	17023.180	16704.078	16374.155	18433.704	16859.104	16585.468	16417.643
PK	4712.076	4268.997	4244.546	4181.595	4774.738	4253.656	4195.785	4129.504	4824.523	4294.534	4255.938	4195.890	4625.595	4086.921	4125.981	4083.354	4559.302	4169.848	4102.169	4060.660
DL*	22787.796	20680.956	20191.492	19976.156	23117.267	20747.060	20760.914	20034.811	23064.077	21064.367	20309.524	20152.676	22011.752	20083.972	20056.918	19302.214	22089.779	20202.878	19874.971	19673.860

Table 7: Effect of (k'_c, k'_f) over the MDM problem ($k'_c = c \cdot k_{cmax}$, $k'_f = 0$) (in seconds)

Datasets	c = 0.1				c = 0.3				c = 0.5				c = 0.7				c = 0.9			
	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry	ReQry	CoQry	MtQry	OpQry
EM	10.981	9.948	9.955	9.733	11.356	10.149	9.958	9.769	11.334	10.033	9.795	9.830	11.124	9.867	9.973	9.583	10.976	9.899	9.762	9.708
EAT	21.721	19.682	19.926	19.743	22.040	19.651	19.387	19.841	21.823	19.762	19.409	19.354	21.943	19.437	19.598	19.345	21.651	19.528	19.256	19.151
TW	2596.207	2349.177	2323.631	2255.816	2603.630	2379.778	2315.049	2240.415	2599.177	2326.073	2264.747	2272.410	2510.435	2265.676	2209.829	2228.010	2528.027	2280.130	2248.436	2236.136
YL	4361.196	3961.880	3827.685	3877.306	4341.239	3999.741	3897.217	3861.397	4344.681	3909.296	3900.668	3789.858	4361.381	3901.730	3846.800	3725.756	4275.440	3856.193	3802.592	3781.790
WK	19231.403	17745.642	16936.474	16738.830	18975.781	17405.147	16830.774	16803.965	18980.221	17795.127	17449.330	16722.834	18616.018	17153.605	17141.037	16971.683	18864.301	17014.483	16777.979	16686.197
PK	4671.832	4285.181	4238.286	4254.250	4802.353	4367.050	4181.155	4266.481	4669.943	4368.996	4255.083	4131.898	4698.224	4202.497	4089.190	4045.996	4665.804	4208.279	4149.783	4127.082
DL*	22710.861	21079.452	20774.089	20015.592	23030.912	20714.837	20279.972	20700.119	22740.691	21098.300	20818.074	20095.773	23007.984	20231.477	19892.997	19581.713	22605.779	20389.074	20105.664	19995.677

Table 8: Effect of (k'_c, k'_f) over the MDM problem ($k'_c = 0$, $k'_f = c \cdot k_{fmax}$) (in seconds)