

1.a) accuracy on training set

sol =	10	100	1000	10000	100000	1000000	10000000	100000000	1000000000
-1.5460	-1.2779	0.5535	0.9313	1.0089	0.7482	0.7482	0.7482	0.7482	0.7482
0.1285	0.1274	0.1798	0.2272	0.2390	0.2433	0.2433	0.2433	0.2433	0.2433
0.2562	0.1004	-0.2259	-0.3629	-0.3958	-0.3816	-0.3816	-0.3816	-0.3816	-0.3816
0.0039	0.0132	0.0161	0.0236	0.0241	0.0256	0.0256	0.0256	0.0256	0.0256
0.5411	4.3348	23.0436	38.3875	57.1586	58.0746	58.0746	58.0746	58.0746	58.0746
0.6536	2.1600	-2.4345	1.1946	-4.1831	-1.1254	-1.1254	-1.1254	-1.1254	-1.1254
1.4277	5.4297	10.5721	7.1454	14.0705	12.6882	12.6882	12.6882	12.6882	12.6882
0.8049	5.7083	17.6817	24.5981	26.5783	30.5171	30.5171	30.5171	30.5171	30.5171
0.8117	4.0811	9.2389	12.6166	12.9874	10.9388	10.9388	10.9388	10.9388	10.9388
0.0989	0.3144	-1.1768	-10.1802	-43.4278	-60.7933	-60.7933	-60.7933	-60.7933	-60.7933
-7.3295	-4.2936	-6.3730	-6.6677	-5.2029	-2.8630	-2.8630	-2.8630	-2.8630	-2.8630

accuracy =
0.9018 0.9137 0.9345 0.9315 0.9345 0.9345 0.9345 0.9345 0.9345 0.9345

gamma_for_max =

100

1.c Validation set

sol =	10	100	1000	10000	100000	1000000	10000000	100000000	1000000000
-1.5460	-1.2779	0.5535	0.9313	1.0089	0.7482	0.7482	0.7482	0.7482	0.7482
0.1285	0.1274	0.1798	0.2272	0.2390	0.2433	0.2433	0.2433	0.2433	0.2433
0.2562	0.1004	-0.2259	-0.3629	-0.3958	-0.3816	-0.3816	-0.3816	-0.3816	-0.3816
0.0039	0.0132	0.0161	0.0236	0.0241	0.0256	0.0256	0.0256	0.0256	0.0256
0.5411	4.3348	23.0436	38.3875	57.1586	58.0746	58.0746	58.0746	58.0746	58.0746
0.6536	2.1600	-2.4345	1.1946	-4.1831	-1.1254	-1.1254	-1.1254	-1.1254	-1.1254
1.4277	5.4297	10.5721	7.1454	14.0705	12.6882	12.6882	12.6882	12.6882	12.6882
0.8049	5.7083	17.6817	24.5981	26.5783	30.5171	30.5171	30.5171	30.5171	30.5171
0.8117	4.0811	9.2389	12.6166	12.9874	10.9388	10.9388	10.9388	10.9388	10.9388
0.0989	0.3144	-1.1768	-10.1802	-43.4278	-60.7933	-60.7933	-60.7933	-60.7933	-60.7933
-7.3295	-4.2936	-6.3730	-6.6677	-5.2029	-2.8630	-2.8630	-2.8630	-2.8630	-2.8630

accuracy =
0.9176 0.9294 0.9059 0.9059 0.8941 0.8941 0.8941 0.8941 0.8941 0.8941

gamma_for_max =

10

c) for $C=10$

sol =

-1.2779

0.1274

0.1004

0.0132

4.3348

2.1600

5.4297

5.7083

4.0811

0.3144

-4.2936

w

b

accuracy =

0.9662