ML_hw4_mj2776

Mike Jaron

4/10/2017

mj2776

1.
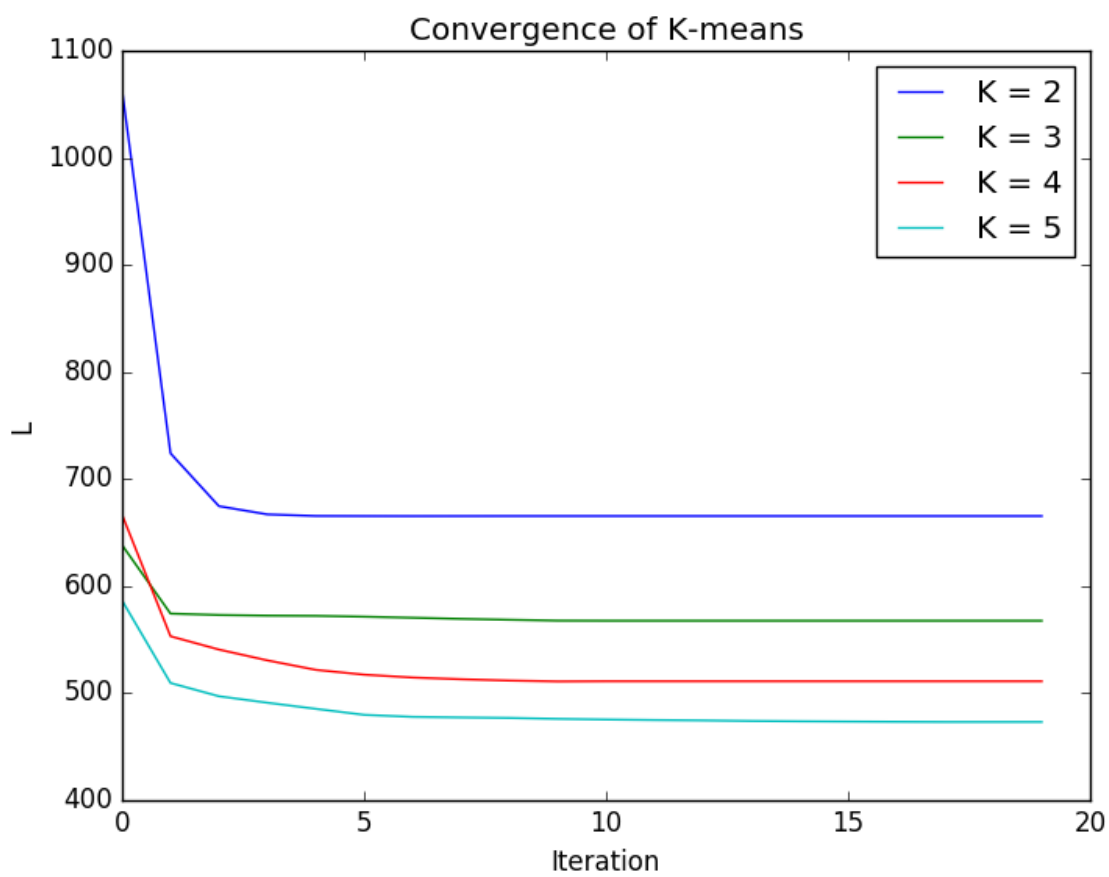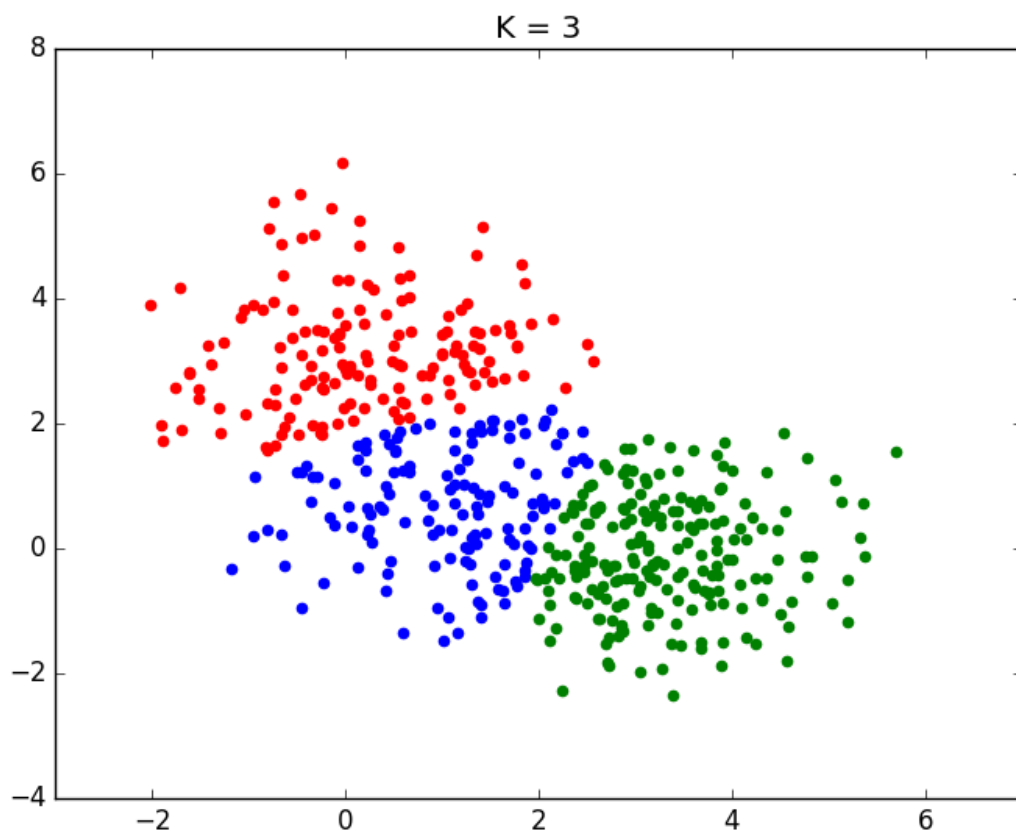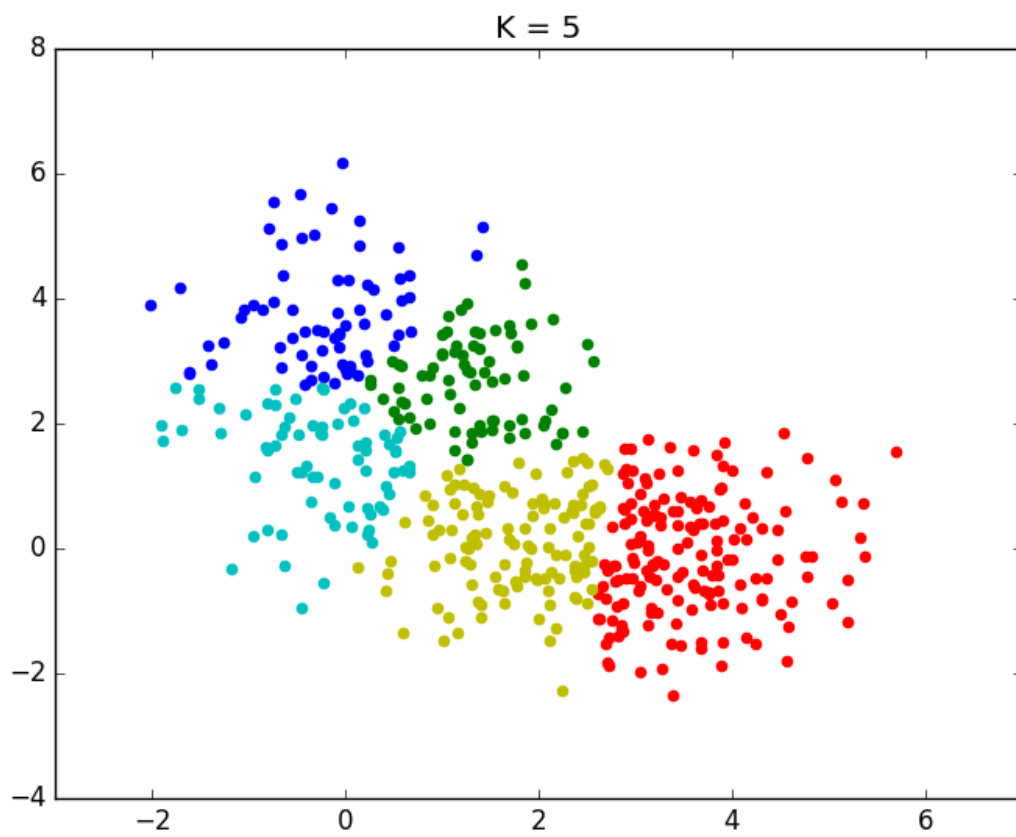
a)

Figure 1:

b)

K = 5

2.

a)

b)
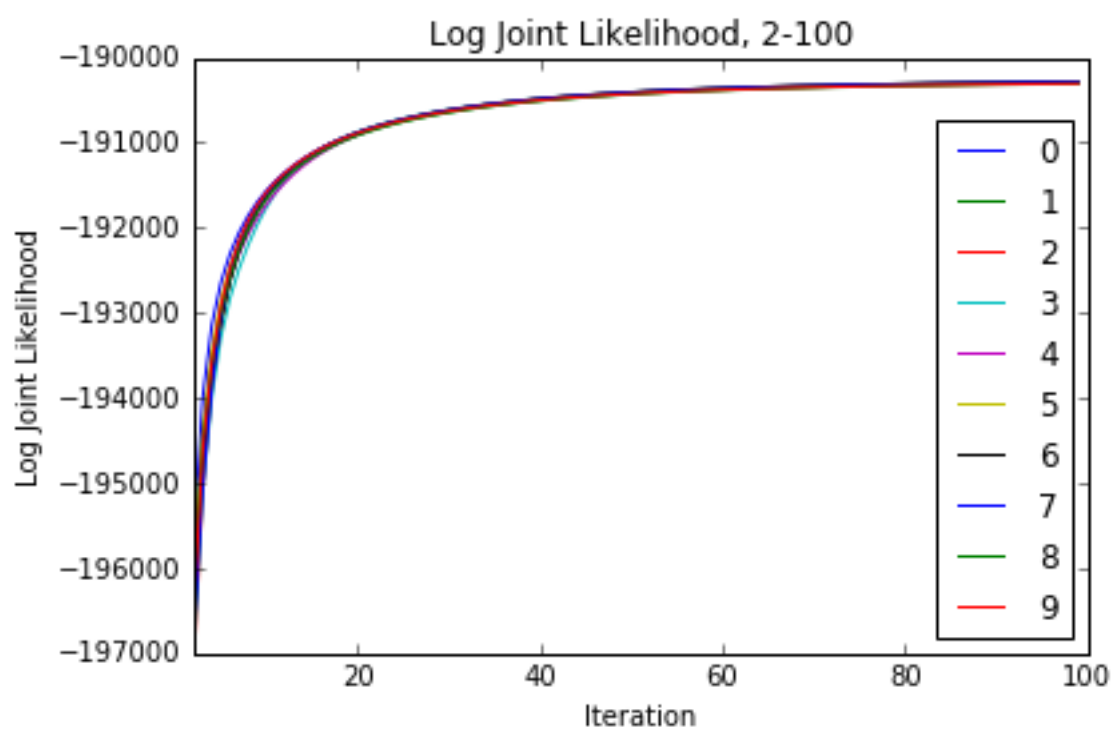
Figure 2:

	log joint likelihood	RMSE
0	-190281.241328	1.162719
1	-190281.872803	1.162800
2	-190281.882143	1.161931
3	-190282.580500	1.162676
4	-190282.621257	1.162163
5	-190284.399883	1.161875
6	-190285.395162	1.161823
7	-190294.281330	1.161850
8	-190299.290691	1.163861
9	-190300.251121	1.163854

Figure 3:

	movies	dist
0	Star Wars (1977)	0.000000
1	Raiders of the Lost Ark (1981)	8.426365
2	Empire Strikes Back, The (1980)	8.472966
3	Return of the Jedi (1983)	9.959142
4	Princess Bride, The (1987)	14.247291
5	Indiana Jones and the Last Crusade (1989)	16.279139
6	Monty Python and the Holy Grail (1974)	16.663195
7	Terminator, The (1984)	16.783630
8	Terminator 2: Judgment Day (1991)	16.844787
9	Fugitive, The (1993)	17.078019
10	Braveheart (1995)	17.223445

Figure 4:

	movies	dist
0	My Fair Lady (1964)	0.000000
1	Mary Poppins (1964)	2.757152
2	Streetcar Named Desire, A (1951)	2.902898
3	Gigi (1958)	2.966683
4	Arsenic and Old Lace (1944)	2.980795
5	Christmas Carol, A (1938)	3.069410
6	Patton (1970)	3.176614
7	Sabrina (1954)	3.190165
8	Winnie the Pooh and the Blustery Day (1968)	3.247532
9	Roman Holiday (1953)	3.266655
10	Hamlet (1996)	3.311320

Figure 5:

	movies	dist
0	GoodFellas (1990)	0.000000
1	Unforgiven (1992)	4.071570
2	Full Metal Jacket (1987)	4.239259
3	Good, The Bad and The Ugly, The (1966)	4.355492
4	Shining, The (1980)	4.404440
5	Apocalypse Now (1979)	4.704759
6	Professional, The (1994)	4.743239
7	Sling Blade (1996)	4.873260
8	Hoop Dreams (1994)	4.904186
9	Bonnie and Clyde (1967)	4.904937
10	This Is Spinal Tap (1984)	5.014075

Figure 6: