

ELEN 4903: Machine Learning

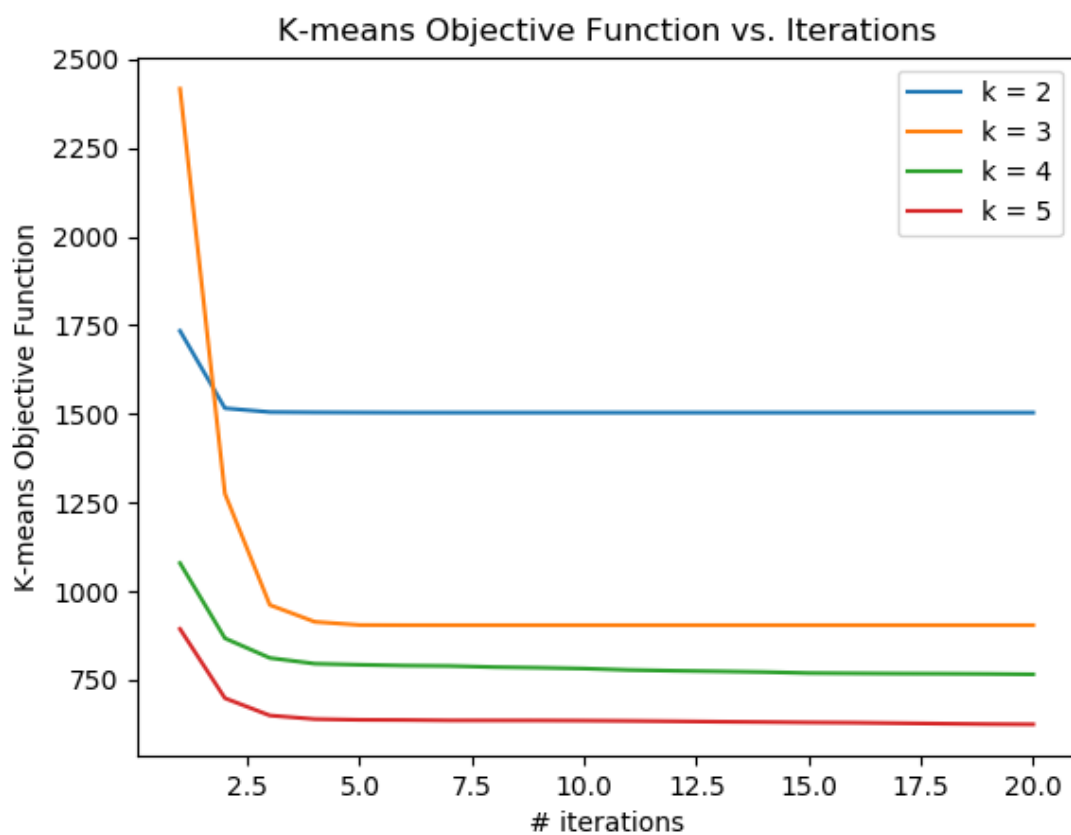
Homework 4

Josh Rutta

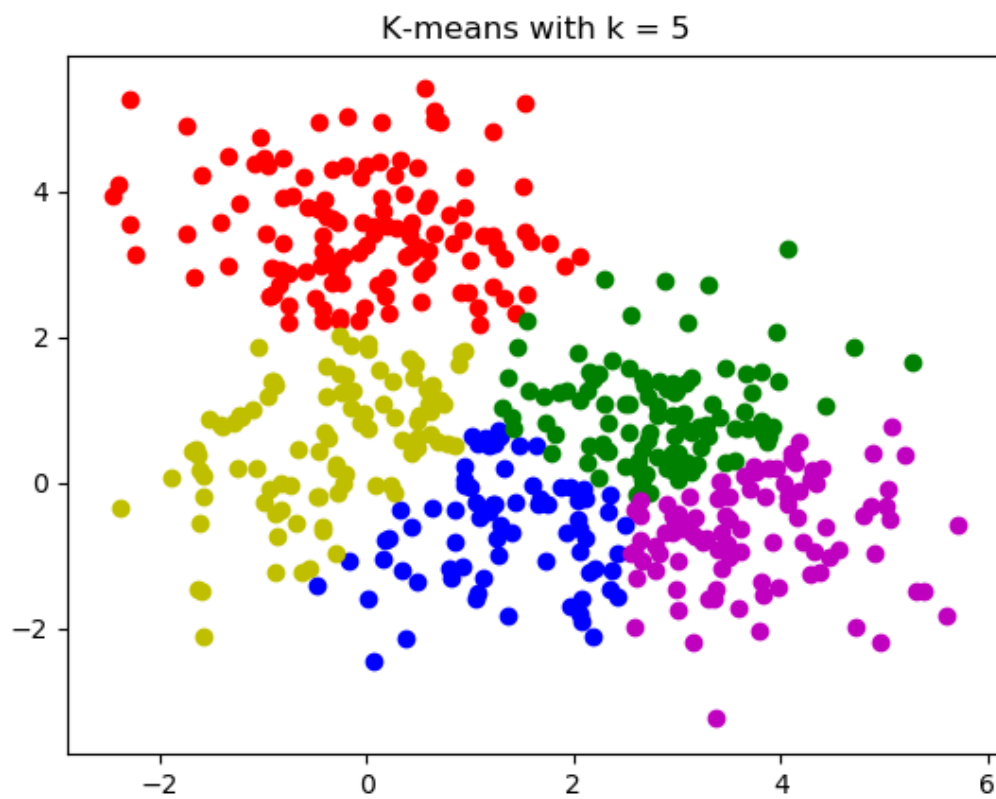
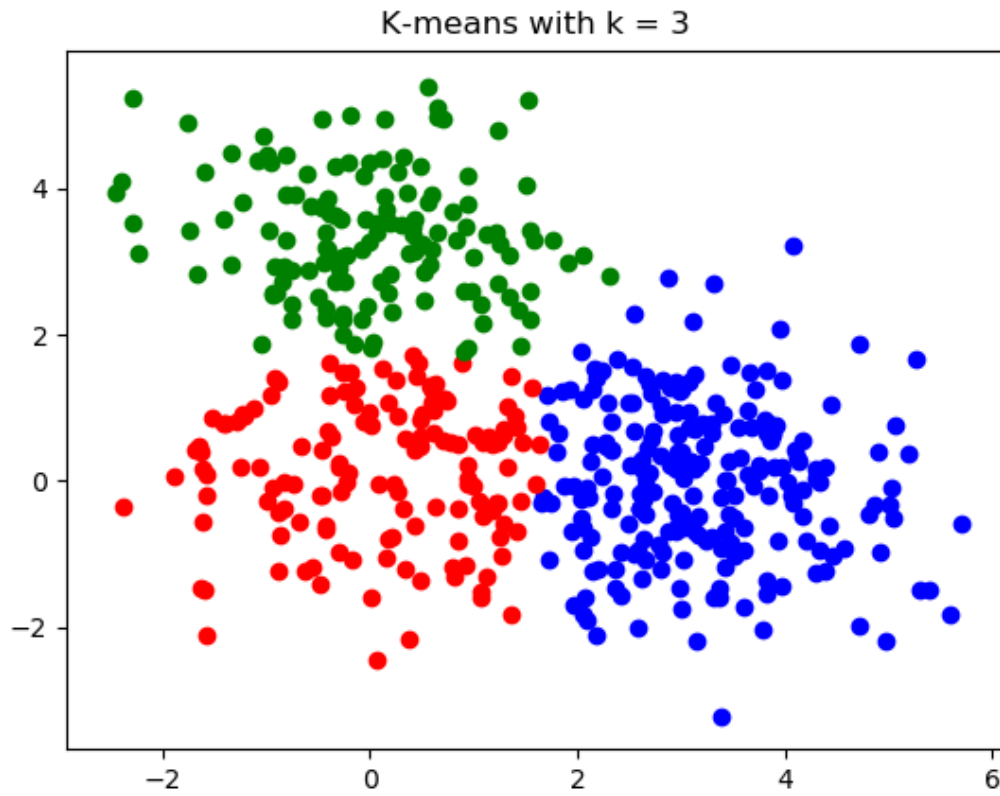
April 10, 2018

Problem 1

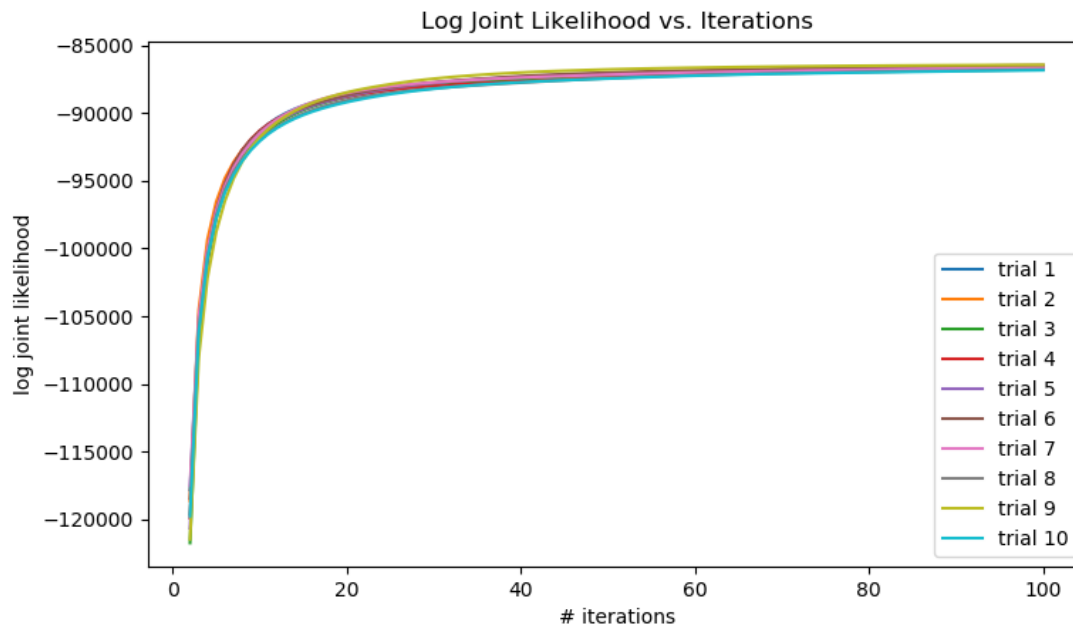
1 a.)



1 b.)



2 a.)



Likelihood	RMSE
-86424.046352	1.132602
-86453.099666	1.116890
-86496.659160	1.106028
-86528.407324	1.086118
-86542.049822	1.122873
-86591.706672	1.116195
-86640.384854	1.109394
-86696.133513	1.124737
-86777.487866	1.078705
-86819.716074	1.146567

2 b.)

Query Movie : Star Wars

Ten closest movies:

Movie : Empire Strikes Back, The (1980) : Distance : 0.3378

Movie : Return of the Jedi (1983) : Distance : 0.5907

Movie : Usual Suspects, The (1995) : Distance : 0.619

Movie : Raiders of the Lost Ark (1981) : Distance : 0.6603

Movie : Meet John Doe (1941) : Distance : 0.8794

Movie : Sting, The (1973) : Distance : 0.8954

Movie : Aliens (1986) : Distance : 0.9028

Movie : Blues Brothers, The (1980) : Distance : 0.9051

Movie : Searching for Bobby Fischer (1993) : Distance : 0.9501

Movie : Butch Cassidy and the Sundance Kid (1969) : Distance : 0.9553

Query Movie : My Fair Lady

Ten closest movies:

Movie : Sound of Music, The (1965) : Distance : 0.6108

Movie : Mary Poppins (1964) : Distance : 0.9464

Movie : Sabrina (1954) : Distance : 1.0971

Movie : Parent Trap, The (1961) : Distance : 1.1006

Movie : Winnie the Pooh and the Blustery Day (1968) : Distance : 1.1065

Movie : Victor/Victoria (1982) : Distance : 1.1688

Movie : Babe (1995) : Distance : 1.1882

Movie : Grease (1978) : Distance : 1.2261

Movie : Cinderella (1950) : Distance : 1.3104

Movie : American in Paris, An (1951) : Distance : 1.3394

Query Movie : GoodFellas

Ten closest movies:

Movie : Bonnie and Clyde (1967) : Distance : 0.5462

Movie : Apocalypse Now (1979) : Distance : 0.5587

Movie : Casino (1995) : Distance : 0.5706

Movie : Short Cuts (1993) : Distance : 0.7203

Movie : Full Metal Jacket (1987) : Distance : 0.7942

Movie : Pulp Fiction (1994) : Distance : 0.8052

Movie : 2001: A Space Odyssey (1968) : Distance : 0.8355

Movie : Godfather: Part II, The (1974) : Distance : 0.8386

Movie : Good, The Bad and The Ugly, The (1966) : Distance : 0.8521

Movie : Chinatown (1974) : Distance : 0.923