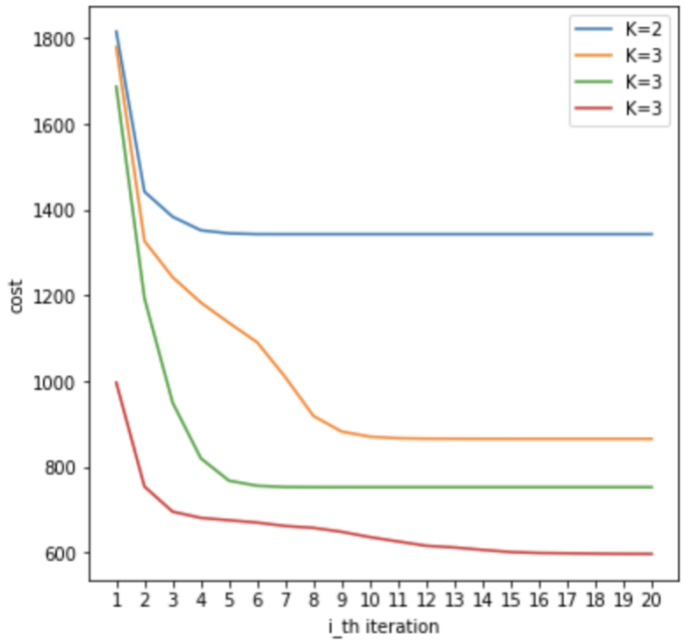
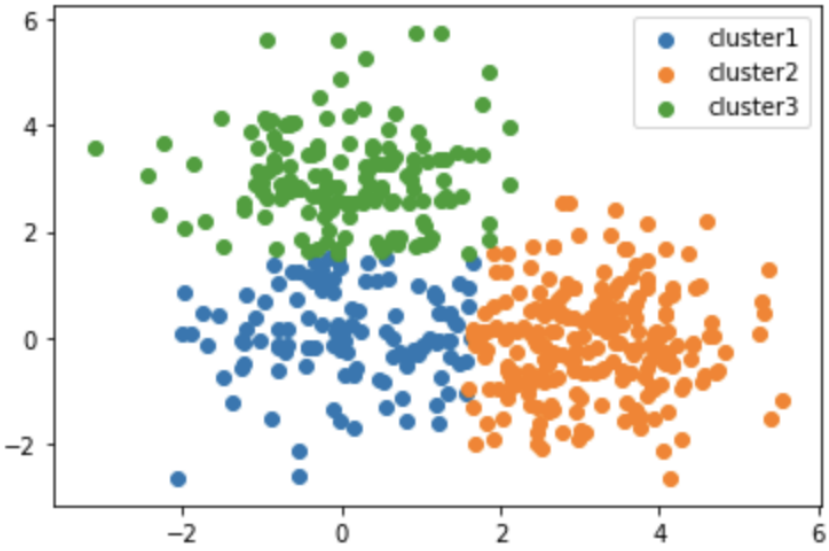
Problem 1

a)

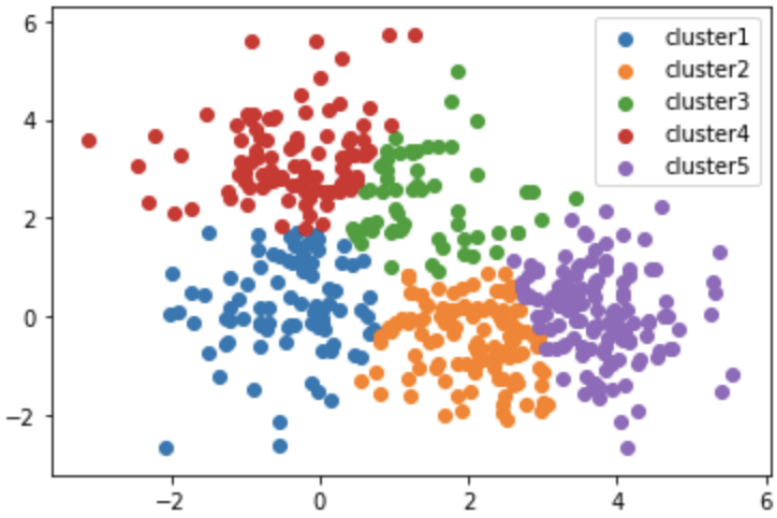


b)

k=3:



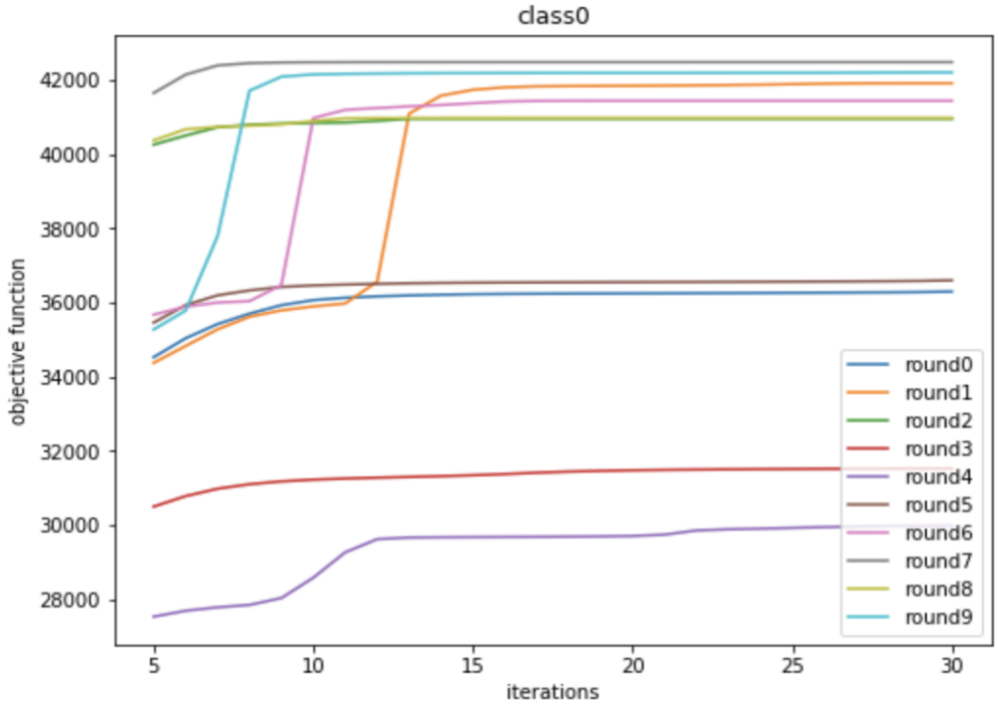
K=5:



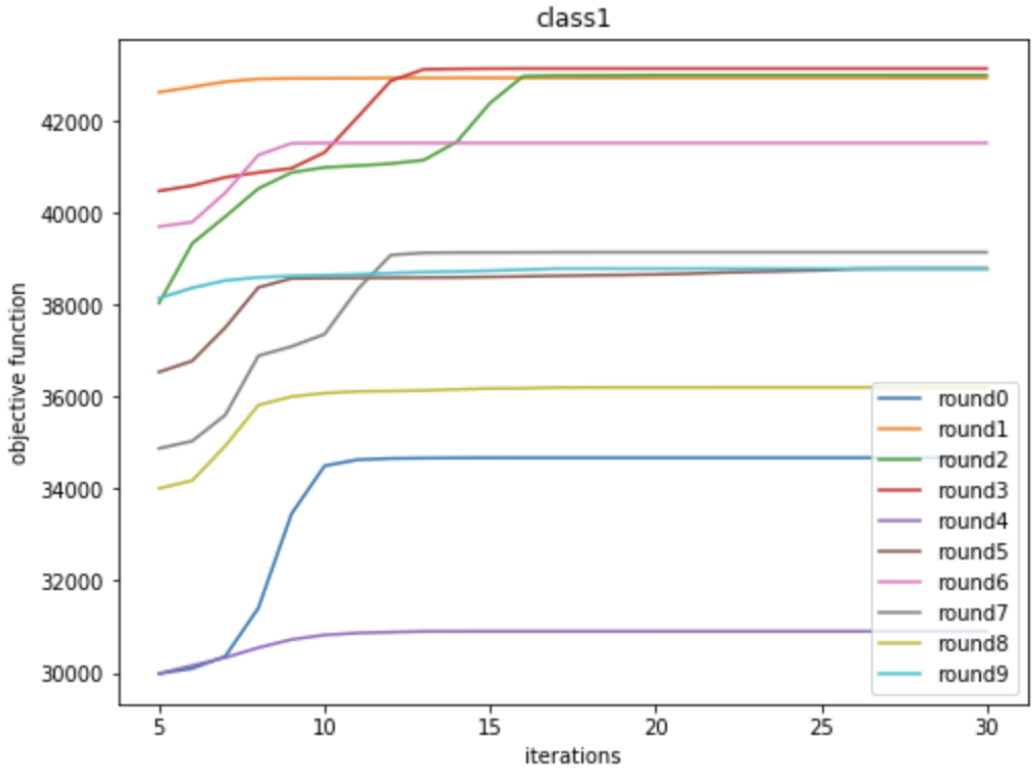
Problem 2

a)

class 0:



Class 1:



b)

1- Gaussian:

	Truelist +	**Truelist -**
Predictitonlist -	FalseNegative:6	TrueNegative:180
Predictionlist +	TruePostive:176	FalseNegative:98

```
The Accuracy is:0.7739130434782608
```

2- Gaussian:

	Truelist +	Truelist -
Predictitonlist -	FalseNegative:7	TrueNegative:197
Predictionlist +	TruePostive:175	FalseNegative:81

```
The Accuracy is:0.808695652173913
```

3- Gaussian:

	Truelist +	Truelist -
Predictitonlist -	FalseNegative:7	TrueNegative:199
Predictionlist +	TruePostive:175	FalseNegative:79

```
The Accuracy is:0.8130434782608695
```

4- Gaussian:

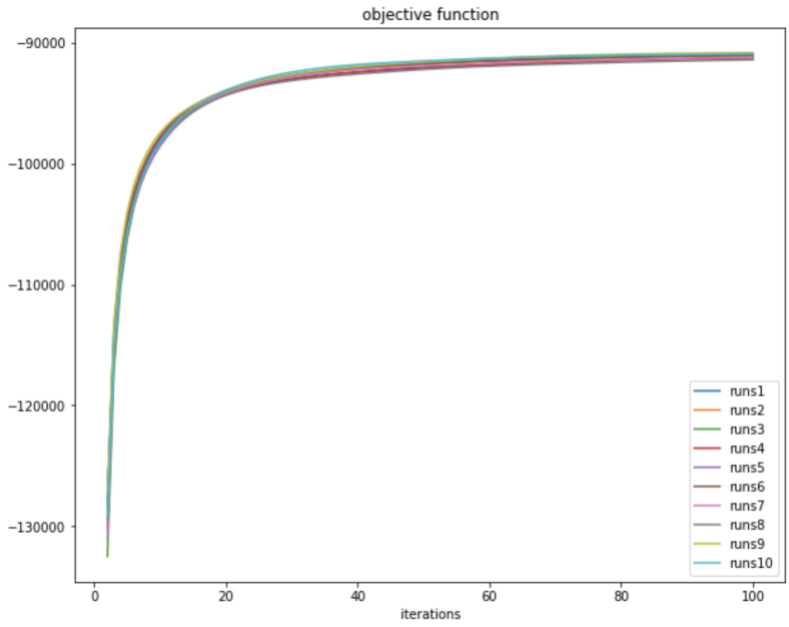
	Truelist +	Truelist -
Predictitonlist -	FalseNegative:7	TrueNegative:199
Predictionlist +	TruePostive:175	FalseNegative:79

```
The Accuracy is:0.8130434782608695
```

Problem3:

a)

1.



2.

	run	RMSE	final_value
8	9	1.128251	-90846.586930
9	10	1.135846	-90928.995638
4	5	1.118109	-91031.886601
2	3	1.123780	-91051.279784
5	6	1.090339	-91071.088817
6	7	1.107864	-91225.860583
1	2	1.111634	-91241.025018
0	1	1.112236	-91275.695366
3	4	1.090576	-91279.430472
7	8	1.093407	-91423.949437

b)

Star war:

movie name	distance
Star Wars (1977)	0.000000
Empire Strikes Back, The (1980)	0.285526
Raiders of the Lost Ark (1981)	0.590200
Return of the Jedi (1983)	0.602447
Lost Horizon (1937)	0.666895
Blues Brothers, The (1980)	0.855688
Indiana Jones and the Last Crusade (1989)	0.879059
Princess Bride, The (1987)	0.968856
Toy Story (1995)	0.969010
Shawshank Redemption, The (1994)	0.971975
Aliens (1986)	0.990304

My fair lady:

movie name	distance
My Fair Lady (1964)	0.000000
Sound of Music, The (1965)	0.693769
Mary Poppins (1964)	0.709767
Shadowlands (1993)	0.853229
Winnie the Pooh and the Blustery Day (1968)	1.034626
Parent Trap, The (1961)	1.126974
Affair to Remember, An (1957)	1.203270
Snow White and the Seven Dwarfs (1937)	1.224372
Victor/Victoria (1982)	1.233322
It Happened One Night (1934)	1.263083
Return of Martin Guerre, The (Retour de Martin Guerre, Le) (1982)	1.263929

GoodFellas:

click to scroll output; double click to hide

movie name	distance
GoodFellas (1990)	0.000000
Full Metal Jacket (1987)	0.581676
Once Upon a Time in the West (1969)	0.657713
Casino (1995)	0.748757
People vs. Larry Flynt, The (1996)	0.760721
Shining, The (1980)	0.760793
Apocalypse Now (1979)	0.799487
Alien (1979)	0.842826
Cool Hand Luke (1967)	0.854580
Unforgiven (1992)	0.864863
Godfather, The (1972)	0.878656