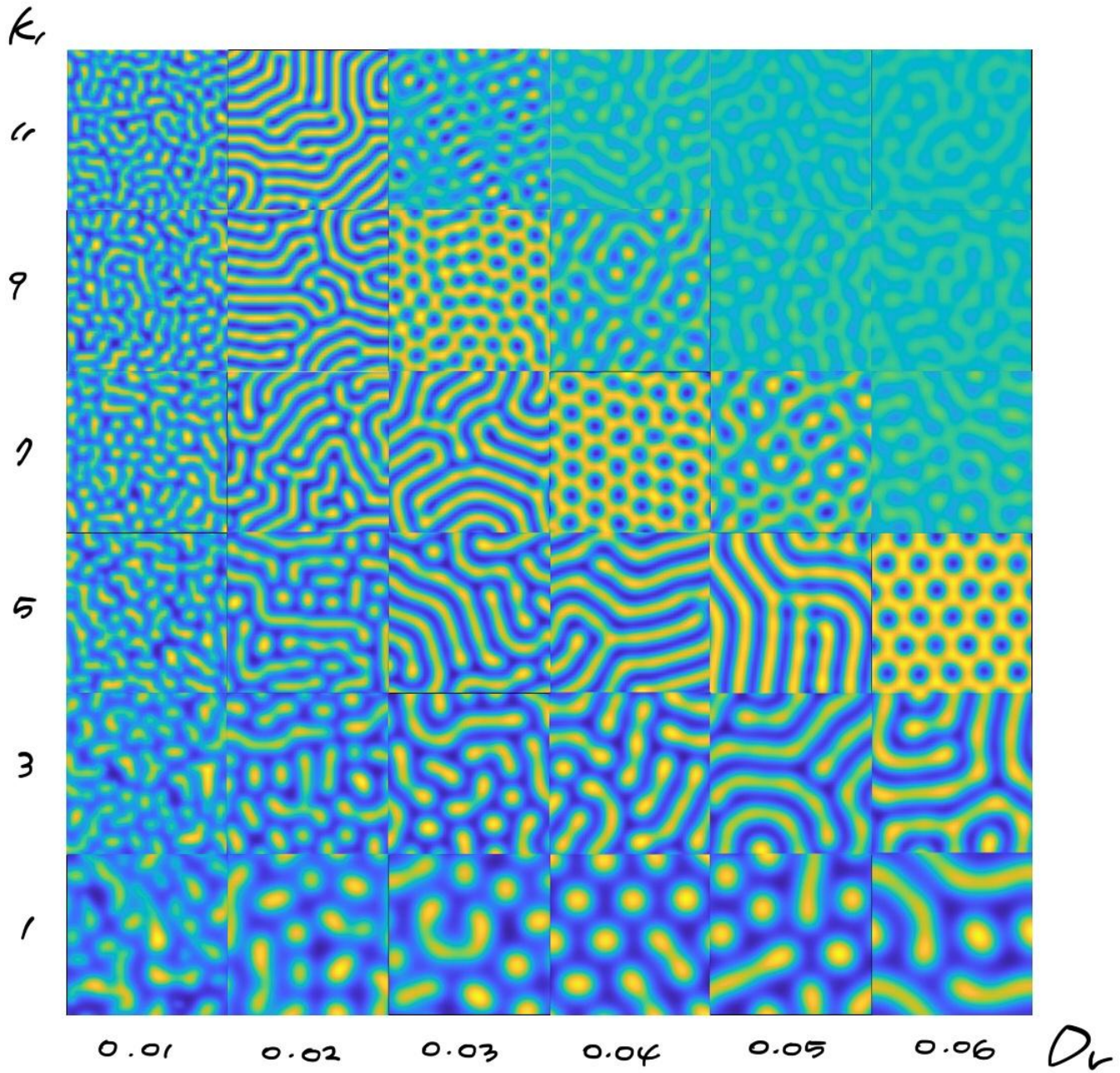
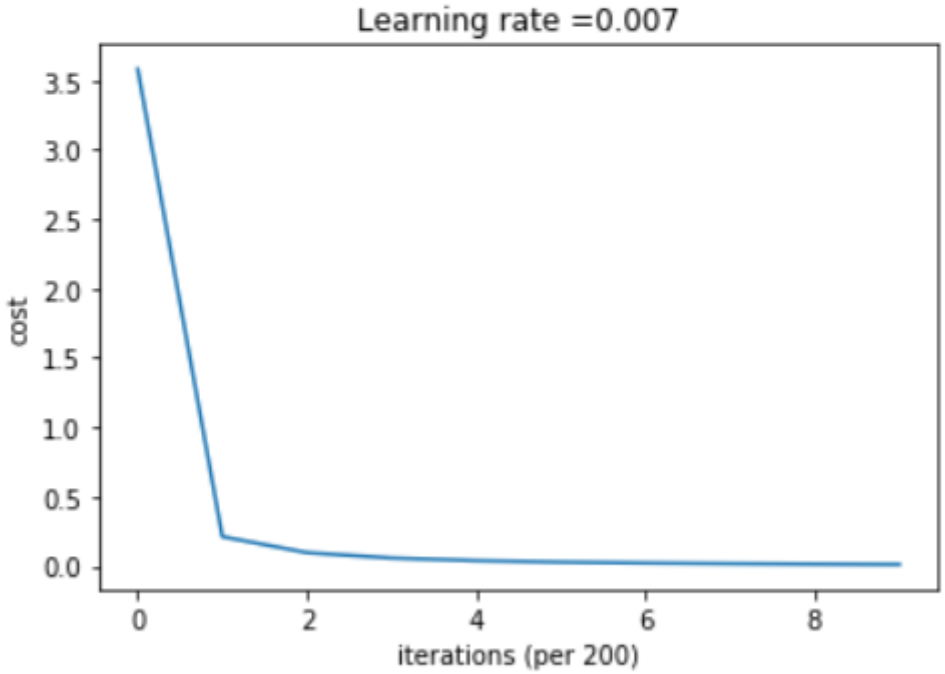
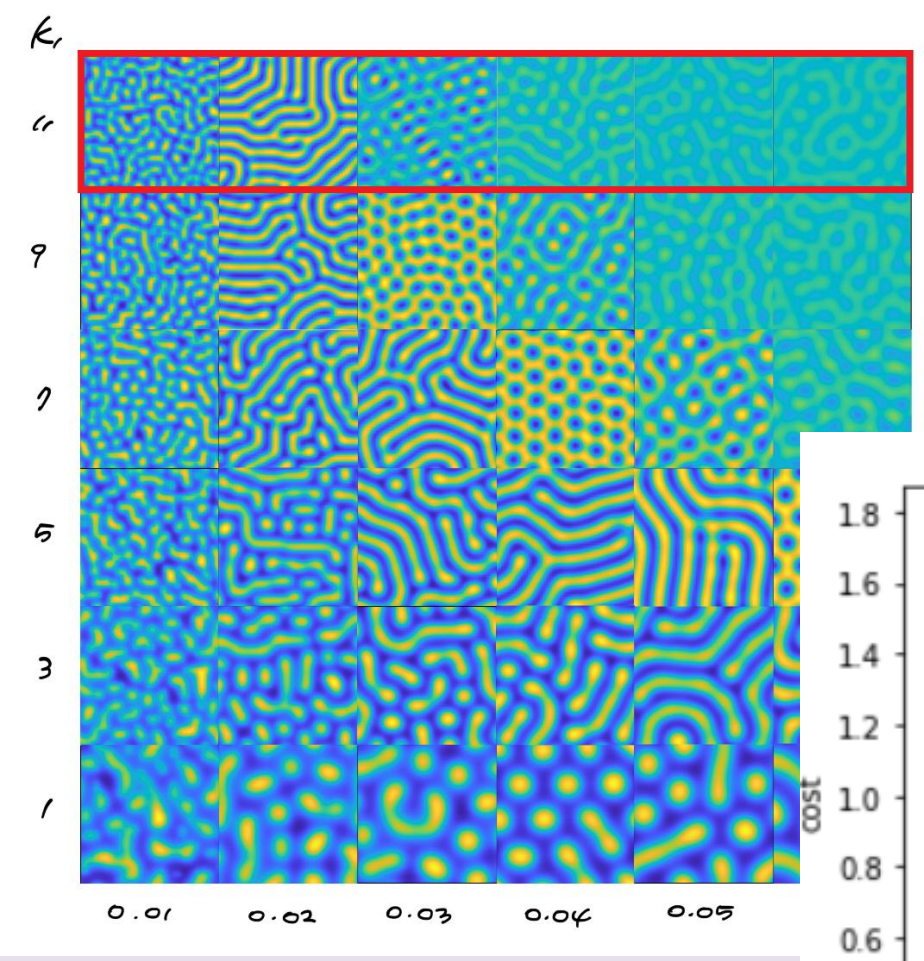
Dissimilar	train :100 all : 144		train : 250 all : 360		train : 500 all : 720		train :1000 all : 1440	
1) Cnn	100 / 	1.0 1.0	100 / 	1.0 1.0	100 / 	1.0 1.0	100 / 	1.0 1.0
2) 1-layer with GD	2000/ 0.005/	0.99 0.43	2000/ 0.005/	0.78 0.36	2000/ 0.004/	0.67 0.36	2000/ 0.004/	0.60 0.43
3) 1layer with Adam	2000/ 0.1/	1.0 0.47	2000/ 0.1/	1.0 0.40	2000/ 0.03/	0.79 0.36	2000/ 0.01/	0.71 0.43
4) Derivative layer with GD	2000/ 10/	1.0 0.36	2000/ 10/	1.0 0.37	2000/ 10/	1.0 0.40	2000/ 10/	0.96 0.34
5) Derivative layer with Adam	2000/ 1/	1.0 0.31	2000/ 0.9/	1.0 0.37	2000/ 0.9/	1.0 0.36	2000/ 0.9/	1.0 0.34
6) 2weight with GD	2000/ 0.005/	1.0 0.43	2000/ 0.005/	0.79 0.43	2000/ 0.004/	0.68 0.42	2000/ 0.004/	0.58 0.43
7) 2weight with Adam	2000/ 0.07/	1.0 0.38	2000/ 0.06/	1.0 0.41	2000/ 0.06/	1.0 0.44	2000/ 0.06/	0.96 0.40
8) 2weight & 1-u^ with GD	2000/ 0.001/	0.98 0.45	2000/ 0.001/	0.88 0.40	2000/ 0.001/	0.73 0.51	2000/ 0.001/	0.67 0.49
9) 2weight & 1-u^ with Adam	2000/ 0.04/	1.0 0.43	2000/ 0.03/	1.0 0.43	2000/ 0.03/	1.0 0.46	2000/ 0.02/	1.0 0.50
10) 2weight & u-u^3 with GD	2000/ 0.001/	1.0 0.77	2000/ 0.001/	0.96 0.82	2000/ 0.001/	0.95 0.90	2000/ 0.001/	0.94 0.89
11) 2weight & u-u^3 with Adam	600/ 0.04/	1.0 0.88	600/ 0.04/	1.0 0.90	600/ 0.04/	1.0 0.90	600/ 0.04/	1.0 0.90

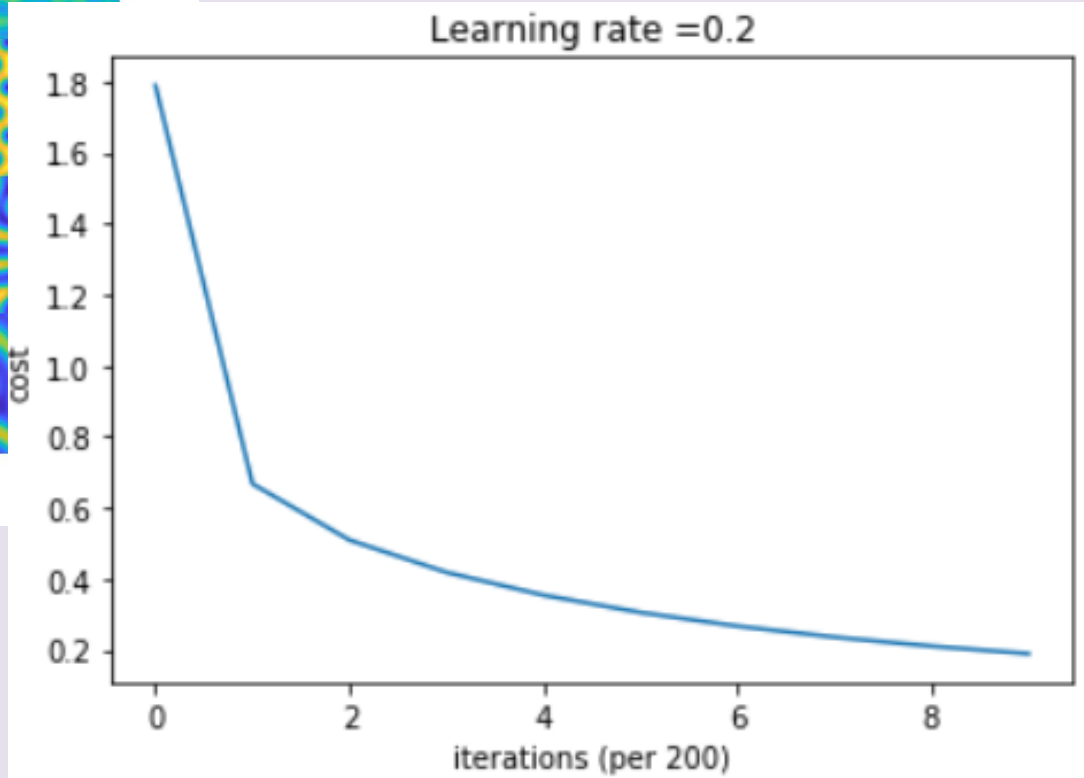

k
11
9
7
5
3
1
0.01
0.02
0.03
0.04
0.05
0.06
Dv

```
Cost after iteration 0: 3.579905
Cost after iteration 200: 0.211312
Cost after iteration 400: 0.096181
Cost after iteration 600: 0.057108
Cost after iteration 800: 0.038579
Cost after iteration 1000: 0.028171
Cost after iteration 1200: 0.021629
Cost after iteration 1400: 0.017185
Cost after iteration 1600: 0.013993
Cost after iteration 1800: 0.011605
```

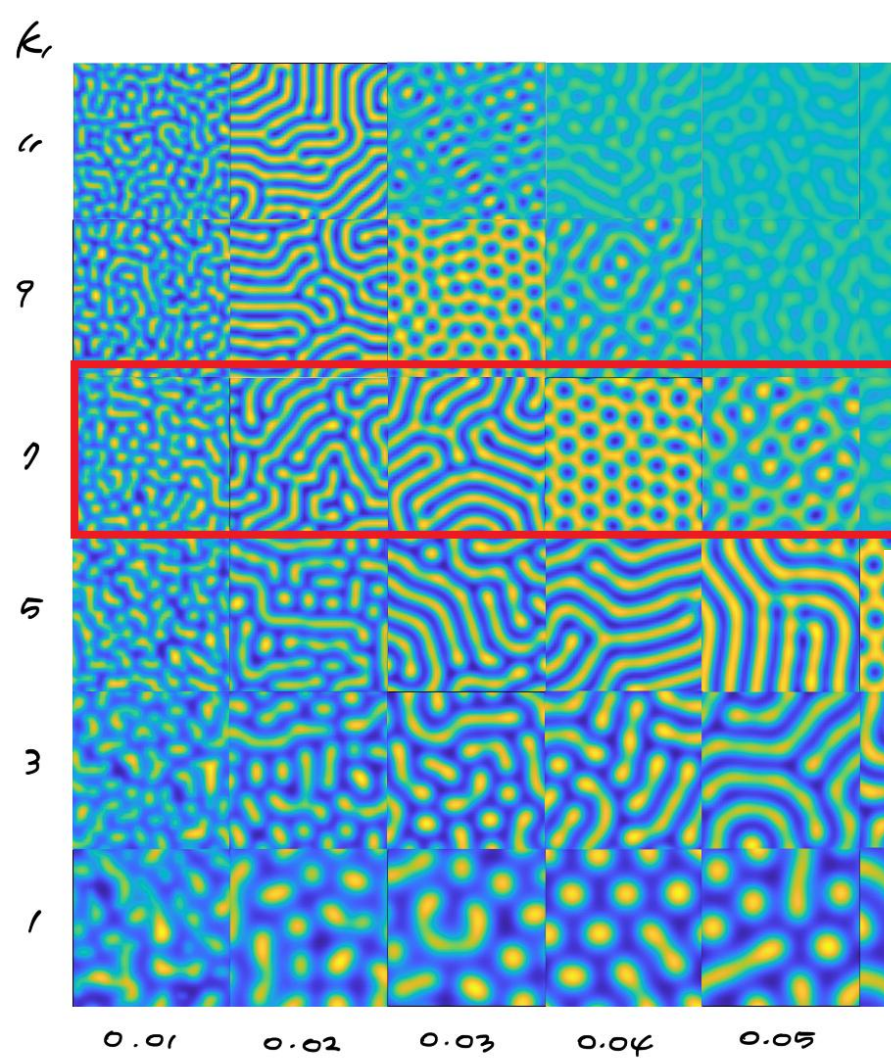


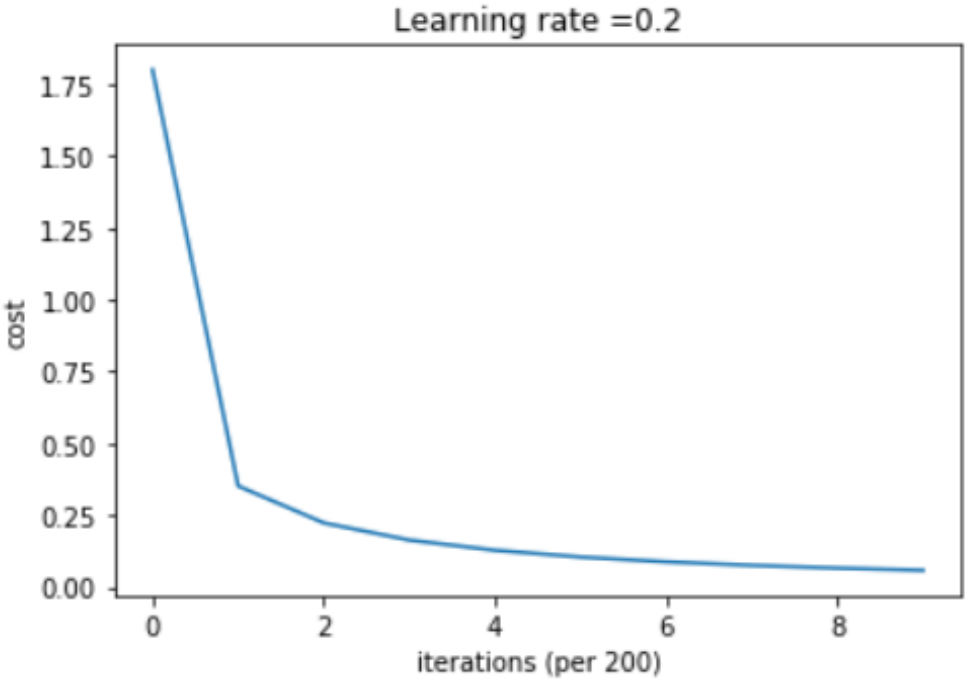

```
train accuracy :  1.0
test accuracy :  0.14814814814814814
```



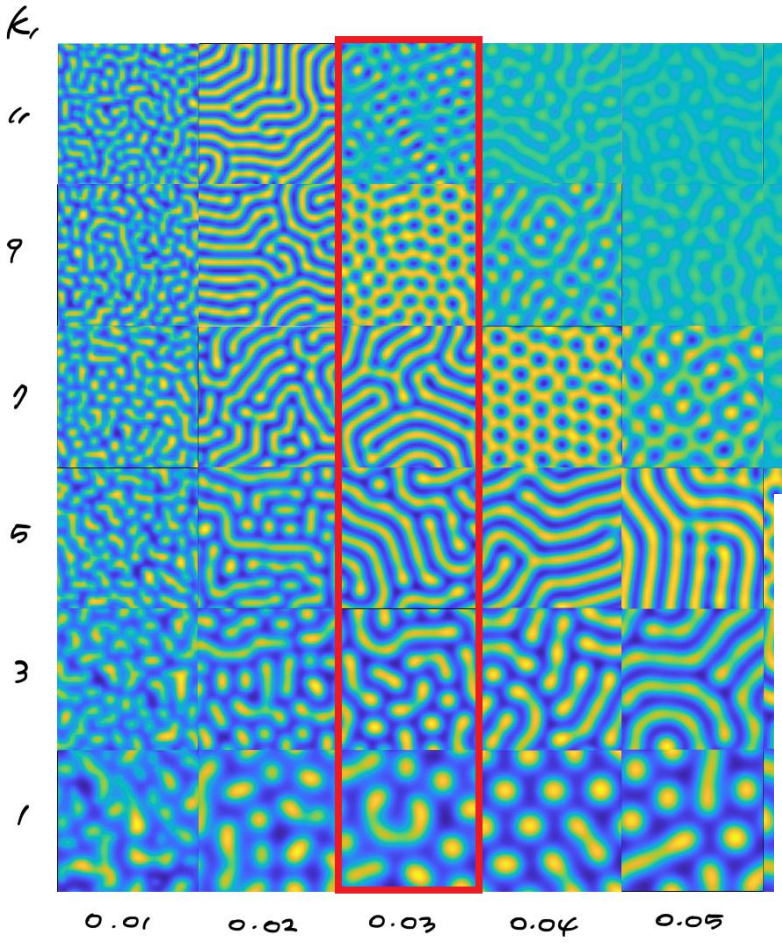


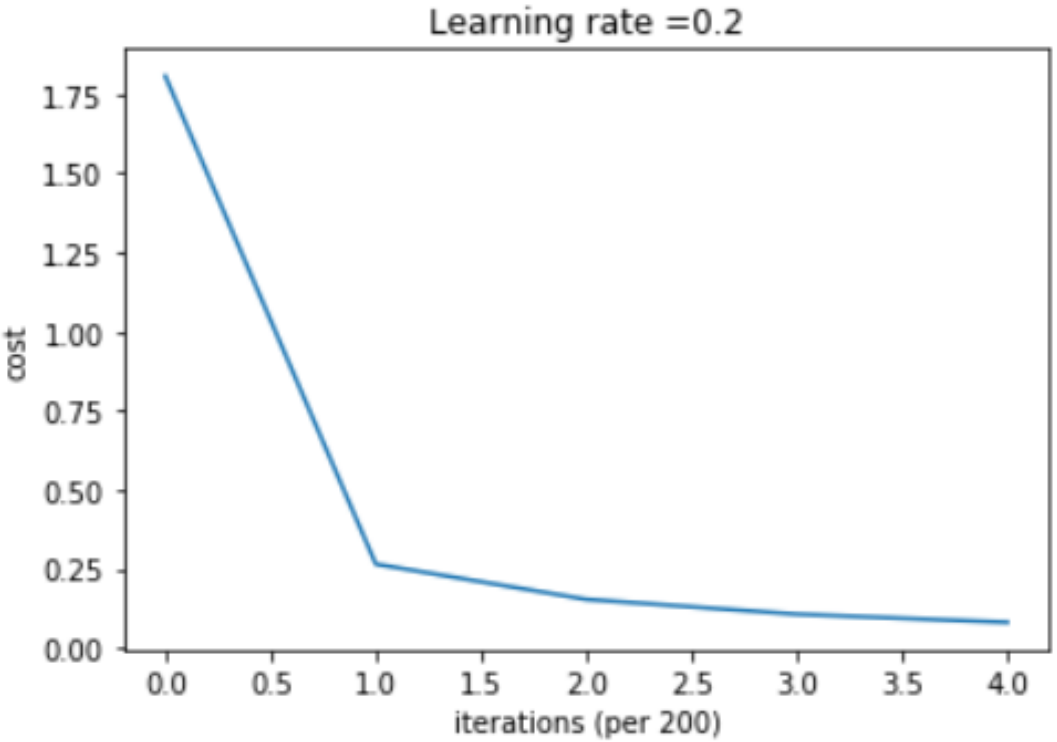

```
train accuracy :  1.0
test accuracy :  0.30092592592592593
```






```
train accuracy :  1.0
test accuracy :  0.4027777777777778
```






```
train accuracy :  1.0
test accuracy :  0.4027777777777778
```