

```
1 C:\Users\lcalderon\Miniconda3\envs\py36\python.exe "C:/Users/lcalderon/OneDrive - ENDAVA/Documents/GitHub/0123/Machine Learning/Census/census3.py"
2 Cost after 0 iterations: 0.5752479259156086
3 Cost after 100 iterations: 0.5497930863866632
4 Cost after 200 iterations: 0.54916175521823
5 Cost after 300 iterations: 0.5485270263175077
6 Cost after 400 iterations: 0.5478820625781227
7 Cost after 500 iterations: 0.5472215570855941
8 Cost after 600 iterations: 0.5465401246522826
9 Cost after 700 iterations: 0.545832226452269
10 Cost after 800 iterations: 0.545092100689819
11 Cost after 900 iterations: 0.5443136994096266
12 Cost after 1000 iterations: 0.5434906325947284
13 Cost after 1100 iterations: 0.5426161218496279
14 Cost after 1200 iterations: 0.5416829673480754
15 Cost after 1300 iterations: 0.5406835333688399
16 Cost after 1400 iterations: 0.5396097596363016
17 Cost after 1500 iterations: 0.5384532077327069
18 Cost after 1600 iterations: 0.5372051538318218
19 Cost after 1700 iterations: 0.5358567405065834
20 Cost after 1800 iterations: 0.5343992007324188
21 Cost after 1900 iterations: 0.5328241655381707
22 Cost after 2000 iterations: 0.5311240619757275
23 Cost after 2100 iterations: 0.5292925991890063
24 Cost after 2200 iterations: 0.5273253268734026
25 Cost after 2300 iterations: 0.5252202329296121
26 Cost after 2400 iterations: 0.5229783278571306
27 Cost after 2500 iterations: 0.5206041464006482
28 Cost after 2600 iterations: 0.5181060873371154
29 Cost after 2700 iterations: 0.5154965150208207
30 Cost after 2800 iterations: 0.5127915642696554
31 Cost after 2900 iterations: 0.5100106227482385
32 Cost after 3000 iterations: 0.5071755077257302
33 Cost after 3100 iterations: 0.5043093996000626
34 Cost after 3200 iterations: 0.5014356342601672
35 Cost after 3300 iterations: 0.49857648202759564
36 Cost after 3400 iterations: 0.49575204647364585
37 Cost after 3500 iterations: 0.4929793994159717
38 Cost after 3600 iterations: 0.49027203138449715
39 Cost after 3700 iterations: 0.48763964740568766
40 Cost after 3800 iterations: 0.4850882869994866
41 Cost after 3900 iterations: 0.4826207057516837
42 Cost after 4000 iterations: 0.4802369312566464
```

43	Cost after 4100 iterations:	0.4779349008083219
44	Cost after 4200 iterations:	0.4757110990209443
45	Cost after 4300 iterations:	0.47356113449546466
46	Cost after 4400 iterations:	0.47148021897185155
47	Cost after 4500 iterations:	0.4694635346956566
48	Cost after 4600 iterations:	0.4675064927886031
49	Cost after 4700 iterations:	0.4656048962423549
50	Cost after 4800 iterations:	0.46375502631887344
51	Cost after 4900 iterations:	0.4619536720200468
52	Cost after 5000 iterations:	0.4601981204507367
53	Cost after 5100 iterations:	0.4584861227078375
54	Cost after 5200 iterations:	0.45681584637934464
55	Cost after 5300 iterations:	0.4551858224470994
56	Cost after 5400 iterations:	0.45359489165889544
57	Cost after 5500 iterations:	0.45204215335794046
58	Cost after 5600 iterations:	0.4505269182899091
59	Cost after 5700 iterations:	0.449048665948442
60	Cost after 5800 iterations:	0.4476070064499985
61	Cost after 5900 iterations:	0.4462016466369581
62	Cost after 6000 iterations:	0.44483236000080567
63	Cost after 6100 iterations:	0.4434989600233955
64	Cost after 6200 iterations:	0.4422012766014832
65	Cost after 6300 iterations:	0.4409391353117154
66	Cost after 6400 iterations:	0.4397123393661109
67	Cost after 6500 iterations:	0.4385206541866475
68	Cost after 6600 iterations:	0.43736379458322544
69	Cost after 6700 iterations:	0.4362414145479759
70	Cost after 6800 iterations:	0.4351530996800867
71	Cost after 6900 iterations:	0.4340983622312795
72	Cost after 7000 iterations:	0.4330766387172264
73	Cost after 7100 iterations:	0.43208728998070794
74	Cost after 7200 iterations:	0.43112960352546315
75	Cost after 7300 iterations:	0.4302027978731548
76	Cost after 7400 iterations:	0.4293060286370386
77	Cost after 7500 iterations:	0.42843839596102395
78	Cost after 7600 iterations:	0.42759895294634304
79	Cost after 7700 iterations:	0.4267867146823404
80	Cost after 7800 iterations:	0.42600066751295046
81	Cost after 7900 iterations:	0.4252397782041117
82	Cost after 8000 iterations:	0.4245030027258339
83	Cost after 8100 iterations:	0.42378929442091967
84	Cost after 8200 iterations:	0.4230976113951164
85	Cost after 8300 iterations:	0.422426923025627
86	Cost after 8400 iterations:	0.4217762155421112

87	Cost after 8500 iterations:	0.4211444966833613
88	Cost after 8600 iterations:	0.4205307994717978
89	Cost after 8700 iterations:	0.4199341851760632
90	Cost after 8800 iterations:	0.4193537455496611
91	Cost after 8900 iterations:	0.41878860444189914
92	Cost after 9000 iterations:	0.41823791887800305
93	Cost after 9100 iterations:	0.41770087970004083
94	Cost after 9200 iterations:	0.4171767118511261
95	Cost after 9300 iterations:	0.41666467437395477
96	Cost after 9400 iterations:	0.4161640601825265
97	Cost after 9500 iterations:	0.4156741956540294
98	Cost after 9600 iterations:	0.4151944400771005
99	Cost after 9700 iterations:	0.4147241849835134
100	Cost after 9800 iterations:	0.4142628533830038
101	Cost after 9900 iterations:	0.4138098989154407
102	Cost after 10000 iterations:	0.41336480493076744
103	Cost after 10100 iterations:	0.4129270835048282
104	Cost after 10200 iterations:	0.4124962743980932
105	Cost after 10300 iterations:	0.41207194396408287
106	Cost after 10400 iterations:	0.41165368401469543
107	Cost after 10500 iterations:	0.41124111065036867
108	Cost after 10600 iterations:	0.4108338630638593
109	Cost after 10700 iterations:	0.41043160232719844
110	Cost after 10800 iterations:	0.41003401017196667
111	Cost after 10900 iterations:	0.4096407877733265
112	Cost after 11000 iterations:	0.409251654548229
113	Cost after 11100 iterations:	0.40886634697785224
114	Cost after 11200 iterations:	0.40848461746366754
115	Cost after 11300 iterations:	0.40810623322560025
116	Cost after 11400 iterations:	0.4077309752496176
117	Cost after 11500 iterations:	0.4073586372907954
118	Cost after 11600 iterations:	0.4069890249365548
119	Cost after 11700 iterations:	0.4066219547333818
120	Cost after 11800 iterations:	0.4062572533789959
121	Cost after 11900 iterations:	0.40589475698066374
122	Cost after 12000 iterations:	0.4055343103792023
123	Cost after 12100 iterations:	0.4051757665371923
124	Cost after 12200 iterations:	0.40481898598905663
125	Cost after 12300 iterations:	0.404463836349945
126	Cost after 12400 iterations:	0.40411019187981084
127	Cost after 12500 iterations:	0.40375793309866015
128	Cost after 12600 iterations:	0.4034069464486791
129	Cost after 12700 iterations:	0.40305712399880783
130	Cost after 12800 iterations:	0.40270836318728453

131	Cost after 12900 iterations:	0.4023605665977456
132	Cost after 13000 iterations:	0.4020136417645953
133	Cost after 13100 iterations:	0.40166750100355353
134	Cost after 13200 iterations:	0.4013220612635284
135	Cost after 13300 iterations:	0.4009772439962333
136	Cost after 13400 iterations:	0.40063297504026457
137	Cost after 13500 iterations:	0.400289184516659
138	Cost after 13600 iterations:	0.39994580673326857
139	Cost after 13700 iterations:	0.3996027800955903
140	Cost after 13800 iterations:	0.3992600470219966
141	Cost after 13900 iterations:	0.39891755386159383
142	Cost after 14000 iterations:	0.3985752508132116
143	Cost after 14100 iterations:	0.39823309184427835
144	Cost after 14200 iterations:	0.39789103460857406
145	Cost after 14300 iterations:	0.3975490403620645
146	Cost after 14400 iterations:	0.39720707387621695
147	Cost after 14500 iterations:	0.39686510334837055
148	Cost after 14600 iterations:	0.3965231003088897
149	Cost after 14700 iterations:	0.3961810395249647
150	Cost after 14800 iterations:	0.39583889890104235
151	Cost after 14900 iterations:	0.3954966593759707
152	Cost after 15000 iterations:	0.3951543048170289
153	Cost after 15100 iterations:	0.39481182191108527
154	Cost after 15200 iterations:	0.39446920005318664
155	Cost after 15300 iterations:	0.3941264312329282
156	Cost after 15400 iterations:	0.3937835099189934
157	Cost after 15500 iterations:	0.3934404329422782
158	Cost after 15600 iterations:	0.3930971993780345
159	Cost after 15700 iterations:	0.392753810427482
160	Cost after 15800 iterations:	0.392410269299339
161	Cost after 15900 iterations:	0.39206658109172715
162	Cost after 16000 iterations:	0.3917227526748971
163	Cost after 16100 iterations:	0.39137879257521413
164	Cost after 16200 iterations:	0.3910347108608321
165	Cost after 16300 iterations:	0.3906905190294626
166	Cost after 16400 iterations:	0.39034622989863693
167	Cost after 16500 iterations:	0.3900018574988301
168	Cost after 16600 iterations:	0.38965741696979944
169	Cost after 16700 iterations:	0.38931292446046706
170	Cost after 16800 iterations:	0.3889683970326504
171	Cost after 16900 iterations:	0.38862385256892196
172	Cost after 17000 iterations:	0.38827930968485724
173	Cost after 17100 iterations:	0.387934787645902
174	Cost after 17200 iterations:	0.38759030628907176

175	Cost after 17300 iterations:	0.3872458859496672
176	Cost after 17400 iterations:	0.38690154739317417
177	Cost after 17500 iterations:	0.38655731175249053
178	Cost after 17600 iterations:	0.3862132004706035
179	Cost after 17700 iterations:	0.38586923524882477
180	Cost after 17800 iterations:	0.3855254380006703
181	Cost after 17900 iterations:	0.38518183081145674
182	Cost after 18000 iterations:	0.38483843590367406
183	Cost after 18100 iterations:	0.38449527560817487
184	Cost after 18200 iterations:	0.3841523723412185
185	Cost after 18300 iterations:	0.3838097485873879
186	Cost after 18400 iterations:	0.38346742688839364
187	Cost after 18500 iterations:	0.3831254298377711
188	Cost after 18600 iterations:	0.3827837800814663
189	Cost after 18700 iterations:	0.38244250032430316
190	Cost after 18800 iterations:	0.382101613342313
191	Cost after 18900 iterations:	0.3817611420009075
192	Cost after 19000 iterations:	0.3814211092788613
193	Cost after 19100 iterations:	0.3810815382980683
194	Cost after 19200 iterations:	0.38074245235902227
195	Cost after 19300 iterations:	0.380403874981961
196	Cost after 19400 iterations:	0.3800658299535992
197	Cost after 19500 iterations:	0.3797283413793542
198	Cost after 19600 iterations:	0.37939143374094764
199	Cost after 19700 iterations:	0.37905513195923674
200	Cost after 19800 iterations:	0.3787194614620924
201	Cost after 19900 iterations:	0.37838444825710277
202	Cost after 20000 iterations:	0.37805011900882785
203	Cost after 20100 iterations:	0.3777165011202736
204	Cost after 20200 iterations:	0.37738362281818616
205	Cost after 20300 iterations:	0.37705151324168756
206	Cost after 20400 iterations:	0.37672020253368704
207	Cost after 20500 iterations:	0.3763897219344028
208	Cost after 20600 iterations:	0.3760601038762185
209	Cost after 20700 iterations:	0.3757313820789836
210	Cost after 20800 iterations:	0.3754035916447355
211	Cost after 20900 iterations:	0.37507676915069343
212	Cost after 21000 iterations:	0.3747509527392319
213	Cost after 21100 iterations:	0.37442618220340995
214	Cost after 21200 iterations:	0.37410249906649345
215	Cost after 21300 iterations:	0.37377994665378733
216	Cost after 21400 iterations:	0.37345857015498096
217	Cost after 21500 iterations:	0.3731384166751215
218	Cost after 21600 iterations:	0.37281953527226785

219	Cost after 21700 iterations:	0.3725019769798506
220	Cost after 21800 iterations:	0.3721857948117786
221	Cost after 21900 iterations:	0.3718710437483985
222	Cost after 22000 iterations:	0.3715577807015347
223	Cost after 22100 iterations:	0.3712460644570179
224	Cost after 22200 iterations:	0.37093595559335996
225	Cost after 22300 iterations:	0.37062751637554103
226	Cost after 22400 iterations:	0.37032081062325634
227	Cost after 22500 iterations:	0.37001590355340014
228	Cost after 22600 iterations:	0.36971286159705763
229	Cost after 22700 iterations:	0.3694117521917978
230	Cost after 22800 iterations:	0.3691126435506135
231	Cost after 22900 iterations:	0.3688156044094177
232	Cost after 23000 iterations:	0.3685207037555455
233	Cost after 23100 iterations:	0.36822801054023147
234	Cost after 23200 iterations:	0.36793759337848314
235	Cost after 23300 iterations:	0.36764952024015674
236	Cost after 23400 iterations:	0.3673638581363295
237	Cost after 23500 iterations:	0.3670806728052379
238	Cost after 23600 iterations:	0.36680002840211406
239	Cost after 23700 iterations:	0.3665219871971902
240	Cost after 23800 iterations:	0.3662466092859505
241	Cost after 23900 iterations:	0.36597395231541496
242	Cost after 24000 iterations:	0.3657040712298333
243	Cost after 24100 iterations:	0.36543701803868067
244	Cost after 24200 iterations:	0.36517284160929603
245	Cost after 24300 iterations:	0.3649115874859141
246	Cost after 24400 iterations:	0.36465329773623545
247	Cost after 24500 iterations:	0.36439801082608125
248	Cost after 24600 iterations:	0.3641457615221124
249	Cost after 24700 iterations:	0.36389658082207543
250	Cost after 24800 iterations:	0.3636504959115791
251	Cost after 24900 iterations:	0.36340753014602944
252	Cost after 25000 iterations:	0.36316770305604135
253	Cost after 25100 iterations:	0.3629310303744334
254	Cost after 25200 iterations:	0.3626975240827572
255	Cost after 25300 iterations:	0.3624671924752524
256	Cost after 25400 iterations:	0.3622400402381011
257	Cost after 25500 iterations:	0.3620160685419087
258	Cost after 25600 iterations:	0.3617952751454218
259	Cost after 25700 iterations:	0.3615776545086201
260	Cost after 25800 iterations:	0.361363197913458
261	Cost after 25900 iterations:	0.36115189359069233
262	Cost after 26000 iterations:	0.3609437268513911

263	Cost after 26100 iterations:	0.3607386802218773
264	Cost after 26200 iterations:	0.36053673358101745
265	Cost after 26300 iterations:	0.3603378642989025
266	Cost after 26400 iterations:	0.36014204737610084
267	Cost after 26500 iterations:	0.35994925558277874
268	Cost after 26600 iterations:	0.3597594595970824
269	Cost after 26700 iterations:	0.359572628142265
270	Cost after 26800 iterations:	0.3593887281221181
271	Cost after 26900 iterations:	0.3592077247543244
272	Cost after 27000 iterations:	0.3590295817014086
273	Cost after 27100 iterations:	0.35885426119900243
274	Cost after 27200 iterations:	0.35868172418117794
275	Cost after 27300 iterations:	0.35851193040263674
276	Cost after 27400 iterations:	0.35834483855756777
277	Cost after 27500 iterations:	0.35818040639500937
278	Cost after 27600 iterations:	0.3580185908305743
279	Cost after 27700 iterations:	0.35785934805441355
280	Cost after 27800 iterations:	0.3577026336353129
281	Cost after 27900 iterations:	0.35754840262083465
282	Cost after 28000 iterations:	0.35739660963343056
283	Cost after 28100 iterations:	0.3572472089624695
284	Cost after 28200 iterations:	0.3571001546521377
285	Cost after 28300 iterations:	0.3569554005851873
286	Cost after 28400 iterations:	0.3568129005625182
287	Cost after 28500 iterations:	0.35667260837859815
288	Cost after 28600 iterations:	0.3565344778927361
289	Cost after 28700 iterations:	0.35639846309624
290	Cost after 28800 iterations:	0.3562645181754991
291	Cost after 28900 iterations:	0.35613259757104704
292	Cost after 29000 iterations:	0.35600265603267117
293	Cost after 29100 iterations:	0.3558746486706418
294	Cost after 29200 iterations:	0.3557485310031498
295	Cost after 29300 iterations:	0.3556242590000451
296	Cost after 29400 iterations:	0.3555017891229767
297	Cost after 29500 iterations:	0.3553810783620458
298	Cost after 29600 iterations:	0.3552620842690837
299	Cost after 29700 iterations:	0.35514476498767467
300	Cost after 29800 iterations:	0.355029079280048
301	Cost after 29900 iterations:	0.35491498655096476
302	Cost after 30000 iterations:	0.35480244686872914
303	Cost after 30100 iterations:	0.35469142098345424
304	Cost after 30200 iterations:	0.3545818703427154
305	Cost after 30300 iterations:	0.35447375710472057
306	Cost after 30400 iterations:	0.35436704414913145

307	Cost after 30500 iterations:	0.3542616950856642
308	Cost after 30600 iterations:	0.3541576742605994
309	Cost after 30700 iterations:	0.35405494676132826
310	Cost after 30800 iterations:	0.35395347841905894
311	Cost after 30900 iterations:	0.3538532358098057
312	Cost after 31000 iterations:	0.35375418625377864
313	Cost after 31100 iterations:	0.3536562978132906
314	Cost after 31200 iterations:	0.35355953928929096
315	Cost after 31300 iterations:	0.35346388021663666
316	Cost after 31400 iterations:	0.3533692908582033
317	Cost after 31500 iterations:	0.35327574219793495
318	Cost after 31600 iterations:	0.3531832059329315
319	Cost after 31700 iterations:	0.35309165446466195
320	Cost after 31800 iterations:	0.3530010608893932
321	Cost after 31900 iterations:	0.35291139898791657
322	Cost after 32000 iterations:	0.35282264321465023
323	Cost after 32100 iterations:	0.352734768686194
324	Cost after 32200 iterations:	0.35264775116940544
325	Cost after 32300 iterations:	0.3525615670690643
326	Cost after 32400 iterations:	0.3524761934151875
327	Cost after 32500 iterations:	0.35239160785005486
328	Cost after 32600 iterations:	0.3523077886149979
329	Cost after 32700 iterations:	0.3522247145370048
330	Cost after 32800 iterations:	0.352142365015189
331	Cost after 32900 iterations:	0.35206072000716415
332	Cost after 33000 iterations:	0.35197976001537
333	Cost after 33100 iterations:	0.3518994660733823
334	Cost after 33200 iterations:	0.35181981973224563
335	Cost after 33300 iterations:	0.35174080304685945
336	Cost after 33400 iterations:	0.3516623985624463
337	Cost after 33500 iterations:	0.3515845893011303
338	Cost after 33600 iterations:	0.3515073587486483
339	Cost after 33700 iterations:	0.3514306908412184
340	Cost after 33800 iterations:	0.35135456995258163
341	Cost after 33900 iterations:	0.35127898088123866
342	Cost after 34000 iterations:	0.3512039088378942
343	Cost after 34100 iterations:	0.3511293394331251
344	Cost after 34200 iterations:	0.35105525866528237
345	Cost after 34300 iterations:	0.35098165290864053
346	Cost after 34400 iterations:	0.3509085089018003
347	Cost after 34500 iterations:	0.350835813736355
348	Cost after 34600 iterations:	0.350763554845826
349	Cost after 34700 iterations:	0.35069171999487303
350	Cost after 34800 iterations:	0.3506202972687835

351	Cost after 34900 iterations:	0.35054927506324396
352	Cost after 35000 iterations:	0.3504786420743966
353	Cost after 35100 iterations:	0.3504083872891825
354	Cost after 35200 iterations:	0.35033849997597105
355	Cost after 35300 iterations:	0.3502689696754784
356	Cost after 35400 iterations:	0.3501997861919713
357	Cost after 35500 iterations:	0.35013093958475805
358	Cost after 35600 iterations:	0.35006242015996347
359	Cost after 35700 iterations:	0.34999421846258644
360	Cost after 35800 iterations:	0.3499263252688381
361	Cost after 35900 iterations:	0.3498587315787571
362	Cost after 36000 iterations:	0.3497914286091001
363	Cost after 36100 iterations:	0.34972440778650377
364	Cost after 36200 iterations:	0.34965766074091387
365	Cost after 36300 iterations:	0.3495911792992808
366	Cost after 36400 iterations:	0.3495249554795142
367	Cost after 36500 iterations:	0.34945898148469534
368	Cost after 36600 iterations:	0.3493932496975423
369	Cost after 36700 iterations:	0.34932775267512484
370	Cost after 36800 iterations:	0.349262483143823
371	Cost after 36900 iterations:	0.3491974339945279
372	Cost after 37000 iterations:	0.34913259827807863
373	Cost after 37100 iterations:	0.34906796920093225
374	Cost after 37200 iterations:	0.34900354012106255
375	Cost after 37300 iterations:	0.348939304544083
376	Cost after 37400 iterations:	0.34887525611959114
377	Cost after 37500 iterations:	0.34881138863772887
378	Cost after 37600 iterations:	0.34874769602595634
379	Cost after 37700 iterations:	0.3486841723460344
380	Cost after 37800 iterations:	0.34862081179121174
381	Cost after 37900 iterations:	0.34855760868361446
382	Cost after 38000 iterations:	0.3484945574718321
383	Cost after 38100 iterations:	0.3484316527286983
384	Cost after 38200 iterations:	0.34836888914926156
385	Cost after 38300 iterations:	0.3483062615489426
386	Cost after 38400 iterations:	0.34824376486187497
387	Cost after 38500 iterations:	0.3481813941394247
388	Cost after 38600 iterations:	0.34811914454888593
389	Cost after 38700 iterations:	0.34805701137234923
390	Cost after 38800 iterations:	0.3479949900057378
391	Cost after 38900 iterations:	0.3479330759580087
392	Cost after 39000 iterations:	0.3478712648505159
393	Cost after 39100 iterations:	0.34780955241652967
394	Cost after 39200 iterations:	0.34774793450090985

395	Cost after 39300 iterations:	0.3476864070599286
396	Cost after 39400 iterations:	0.3476249661612378
397	Cost after 39500 iterations:	0.34756360798397823
398	Cost after 39600 iterations:	0.34750232881902443
399	Cost after 39700 iterations:	0.3474411250693607
400	Cost after 39800 iterations:	0.3473799932505859
401	Cost after 39900 iterations:	0.34731892999153746
402	Cost after 40000 iterations:	0.3472579320350335
403	Cost after 40100 iterations:	0.347196996238725
404	Cost after 40200 iterations:	0.34713611957605195
405	Cost after 40300 iterations:	0.34707529913729857
406	Cost after 40400 iterations:	0.34701453213074024
407	Cost after 40500 iterations:	0.34695381588387453
408	Cost after 40600 iterations:	0.34689314784473024
409	Cost after 40700 iterations:	0.34683252558324545
410	Cost after 40800 iterations:	0.3467719467927073
411	Cost after 40900 iterations:	0.34671140929124455
412	Cost after 41000 iterations:	0.3466509110233639
413	Cost after 41100 iterations:	0.3465904500615207
414	Cost after 41200 iterations:	0.3465300246077142
415	Cost after 41300 iterations:	0.3464696329950973
416	Cost after 41400 iterations:	0.34640927368958935
417	Cost after 41500 iterations:	0.3463489452914816
418	Cost after 41600 iterations:	0.34628864653702385
419	Cost after 41700 iterations:	0.34622837629997916
420	Cost after 41800 iterations:	0.3461681335931359
421	Cost after 41900 iterations:	0.34610791756976383
422	Cost after 42000 iterations:	0.34604772752500057
423	Cost after 42100 iterations:	0.34598756289715665
424	Cost after 42200 iterations:	0.3459274232689249
425	Cost after 42300 iterations:	0.3458673083684804
426	Cost after 42400 iterations:	0.3458072180704584
427	Cost after 42500 iterations:	0.3457471523967947
428	Cost after 42600 iterations:	0.3456871115174171
429	Cost after 42700 iterations:	0.3456270957507719
430	Cost after 42800 iterations:	0.3455671055641743
431	Cost after 42900 iterations:	0.3455071415739677
432	Cost after 43000 iterations:	0.34544720454548017
433	Cost after 43100 iterations:	0.34538729539276497
434	Cost after 43200 iterations:	0.3453274151781149
435	Cost after 43300 iterations:	0.34526756511133694
436	Cost after 43400 iterations:	0.3452077465487783
437	Cost after 43500 iterations:	0.3451479609920942
438	Cost after 43600 iterations:	0.3450882100867486

439	Cost after 43700 iterations:	0.345028495620239
440	Cost after 43800 iterations:	0.3449688195200412
441	Cost after 43900 iterations:	0.3449091838512669
442	Cost after 44000 iterations:	0.3448495908140306
443	Cost after 44100 iterations:	0.3447900427405236
444	Cost after 44200 iterations:	0.3447305420917935
445	Cost after 44300 iterations:	0.3446710914542303
446	Cost after 44400 iterations:	0.34461169353576027
447	Cost after 44500 iterations:	0.34455235116175215
448	Cost after 44600 iterations:	0.3444930672706396
449	Cost after 44700 iterations:	0.3444338449092688
450	Cost after 44800 iterations:	0.344374687227978
451	Cost after 44900 iterations:	0.3443155974754201
452	Cost after 45000 iterations:	0.34425657899314127
453	Cost after 45100 iterations:	0.34419763520992613
454	Cost after 45200 iterations:	0.34413876963592827
455	Cost after 45300 iterations:	0.34407998585660016
456	Cost after 45400 iterations:	0.34402128752644096
457	Cost after 45500 iterations:	0.343962678362582
458	Cost after 45600 iterations:	0.3439041621382299
459	Cost after 45700 iterations:	0.3438457426759883
460	Cost after 45800 iterations:	0.3437874238410811
461	Cost after 45900 iterations:	0.34372920953450103
462	Cost after 46000 iterations:	0.3436711036861048
463	Cost after 46100 iterations:	0.3436131102476819
464	Cost after 46200 iterations:	0.3435552331860184
465	Cost after 46300 iterations:	0.34349747647598344
466	Cost after 46400 iterations:	0.34343984409365963
467	Cost after 46500 iterations:	0.3433823400095433
468	Cost after 46600 iterations:	0.3433249681818385
469	Cost after 46700 iterations:	0.3432677325498655
470	Cost after 46800 iterations:	0.3432106370276095
471	Cost after 46900 iterations:	0.34315368549742814
472	Cost after 47000 iterations:	0.3430968818039394
473	Cost after 47100 iterations:	0.3430402297481088
474	Cost after 47200 iterations:	0.3429837330815545
475	Cost after 47300 iterations:	0.3429273955010852
476	Cost after 47400 iterations:	0.34287122064348763
477	Cost after 47500 iterations:	0.3428152120805763
478	Cost after 47600 iterations:	0.34275937331451667
479	Cost after 47700 iterations:	0.3427037077734334
480	Cost after 47800 iterations:	0.34264821880731106
481	Cost after 47900 iterations:	0.34259290968419426
482	Cost after 48000 iterations:	0.34253778358669273

```
483 Cost after 48100 iterations: 0.34248284360879505
484 Cost after 48200 iterations: 0.34242809275299063
485 Cost after 48300 iterations: 0.34237353392770387
486 Cost after 48400 iterations: 0.34231916994503553
487 Cost after 48500 iterations: 0.34226500351881084
488 Cost after 48600 iterations: 0.3422110372629288
489 Cost after 48700 iterations: 0.3421572736900078
490 Cost after 48800 iterations: 0.34210371521032074
491 Cost after 48900 iterations: 0.3420503641310111
492 Cost after 49000 iterations: 0.34199722265558247
493 Cost after 49100 iterations: 0.34194429288364986
494 Cost after 49200 iterations: 0.34189157681094345
495 Cost after 49300 iterations: 0.3418390763295536
496 Cost after 49400 iterations: 0.34178679322840333
497 Cost after 49500 iterations: 0.34173472919393866
498 Cost after 49600 iterations: 0.3416828858110221
499 Cost after 49700 iterations: 0.3416312645640156
500 Cost after 49800 iterations: 0.34157986683804226
501 Cost after 49900 iterations: 0.34152869392041063
502 Cost after 50000 iterations: 0.3414777470021905
503 Train cost: 0.3414772386780937
504 Train accuracy: 83.9140908628236%
505 Dev cost: 0.34580056641172546
506 Dev accuracy: 83.21346179943005%
507 Result exported.
508
509 Process finished with exit code 0
510
```