```
File - run (1)
 1 ssh://root@103.254.67.181:10006/usr/bin/python -u /home/sunfengzhen/pycharm/car2/run.py
 2 Using TensorFlow backend.
 4 car_seq. shape (1320, 12)
 5 target_seq. shape (1320, 4)
 6 trainX. shape (1320, 12)
 7 trainY. shape (1320, 4)
 8 validX. shape (110, 12)
 9 validY. shape (110, 4)
10
11 Layer (type)
13 hi dden01 (Dense)
14
15 output (Dense)
16
17 Total params: 616
18 Trainable params: 616
   Non-trainable params: 0
19
20
21 ############model train###########
22 model.metrics_names = ['loss', 'mean_squared_error']
23 Train on 1320 samples, validate on 110 samples
24 Epoch 1/1000
25 2019-11-07 07:41:17.943100: I tensorflow/core/platform/cpu_feature_guard.cc:141] Your CPU supports
   instructions that this TensorFlow binary was not compiled to use: AVX2 FMA
26 2019-11-07 07:41:18.202212: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1432] Found device 0 with
   properties:
27 name: GeForce GTX 1080 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.582
28 pciBusID: 0000:02:00.0
29 total Memory: 10.92GiB freeMemory: 10.62GiB
30 2019-11-07 07:41:18.202434: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu
   devices: 0
31 2019-11-07 07:41:18.758138: I tensorflow/core/common_runtime/gpu/gpu_device.cc:982] Device interconnect
   StreamExecutor with strength 1 edge matrix:
32 2019-11-07 07: 41: 18. 758206: I tensorflow/core/common_runtime/gpu/gpu_device.cc: 988]
33 2019-11-07 07: 41: 18.758224: I tensorflow/core/common_runtime/gpu/gpu_device.cc: 1001] 0: N
34 2019-11-07 07:41:18.758556: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow
   device (/job:localhost/replica:O/task:O/device:GPU:O with 10269 MB memory) -> physical GPU (device: O,
   name: GeForce GTX 1080 Ti, pci bus id: 0000:02:00.0, compute capability: 6.1)
    - 3s - Loss: 79990.3662 - mean_squared_error: 79990.3662 - val_Loss: 70601.9471 - val_mean_squared_error
35
     70601.9471
36 Epoch 2/1000
    - 1s - loss: 57307.1327 - mean_squared_error: 57307.1327 - val_loss:
     50490.0435
38 Epoch 3/1000
    - 1s - loss: 56412.6903 - mean squared error: 56412.6903 - val loss: 63715.3644 - val mean squared error
     63715. 3644
40 Epoch 4/1000
    - 1s - loss: 60627.3640 - mean_squared_error: 60627.3640 - val_loss: 48213.2616 - val_mean_squared_error
41
42 Epoch 5/1000
                58567.0457 - mean_squared_error: 58567.0457 - val_loss: 61235.8446 - val_mean_squared_error
     61235.8446
44 Epoch 6/1000
    - 1s - loss: 50151.1511 - mean_squared_error: 50151.1511 - val_loss: 44607.2820 - val_mean_squared_error
46 Epoch 7/1000
    - 1s - loss: 52344.5979 - mean_squared_error: 52344.5979 - val_loss: 43279.4112 - val_mean_squared_error
48 Epoch 8/1000
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File - run (1)
     35273.0764
 90 Epoch 29/1000
     - 1s - loss: 42970.1468 - mean_squared_error: 42970.1468 - val_loss: 37922.7045 - val_mean_squared_error
 91
      37922.7045
 92 Epoch 30/1000
     - 1s - loss: 41436.1844 - mean_squared_error: 41436.1844 - val_loss: 31351.3287 - val_mean_squared_error
      31351, 3287
 94 Epoch 31/1000
     - 1s - loss: 41955.4612 - mean_squared_error: 41955.4612 - val_loss: 33038.6655 - val_mean_squared_error
 95
      33038.6655
 96 Epoch 32/1000
     - 1s - loss: 42771.1017 - mean_squared_error: 42771.1017 - val_loss: 38551.0757 - val_mean_squared_error
      38551.0757
 98 Epoch 33/1000
     - 1s - loss: 41559.7501 - mean_squared_error: 41559.7501 - val_loss: 32554.0442 - val_mean_squared_error
      32554.0442
100 Epoch 34/1000
     - 1s - loss: 42083.9903 - mean_squared_error: 42083.9903 - val_loss: 35172.4414 - val_mean_squared_error
      35172.4414
102 Epoch 35/1000
     - 1s - loss: 40843.9395 - mean_squared_error: 40843.9395 - val_loss: 33586.1988 - val_mean_squared_error
      33586. 1988
104 Epoch 36/1000
     - 1s - loss: 40957.5410 - mean_squared_error: 40957.5410 - val_loss: 32824.3087 - val_mean_squared_error
      32824.3087
106 Epoch 37/1000
     - 1s - loss: 42543.1566 - mean_squared_error: 42543.1566 - val_loss: 32650.2967 - val_mean_squared_error
      32650. 2967
108 Epoch 38/1000
     - 1s - loss: 41026.1279 - mean squared error: 41026.1279 - val loss: 34441.4498 - val mean squared error
      34441. 4498
110 Epoch 39/1000
     - 1s - loss: 40601.2757 - mean_squared_error: 40601.2757 - val_loss: 31207.7202 - val_mean_squared_error
111
      31207.7202
112 Epoch 40/1000
     - 1s - loss: 41009.1315 - mean_squared_error: 41009.1315 - val_loss: 30455.8504 - val_mean_squared_error
113
      30455.8504
114 Epoch 41/1000
     - 1s - loss: 41713.1392 - mean_squared_error: 41713.1392 - val_loss: 31722.3772 - val_mean_squared_error
      31722.3772
116 Epoch 42/1000
     - 1s - loss: 40602.1841 - mean_squared_error: 40602.1841 - val_loss: 37699.195<u>8 - val_mean_squared_error</u>
117
      37699. 1958
118 Epoch 43/1000
     - 1s - loss: 40829.1771 - mean_squared_error: 40829.1771 - val_loss: 32466.3354 - val_mean_squared_error
      32466.3354
120 Epoch 44/1000
     - 1s - loss: 41431.6927 - mean_squared_error: 41431.6927 - val_loss: 31426.0070 - val_mean_squared_error
     31426.0070
122 Epoch 45/1000
     - 1s - loss: 40090.9646 - mean_squared_error: 40090.9646 - val_loss: 38963.8547 - val_mean_squared_error
      38963.8547
124 Epoch 46/1000
     - 1s - loss: 41224.8423 - mean_squared_error: 41224.8423 - val_loss: 35281.8886 - val_mean_squared_error
      35281.8886
126 Epoch 47/1000
     - 1s - loss: 42250.5668 - mean_squared_error: 42250.5668 - val_loss: 32210.6146 - val_mean_squared_error
      32210.6146
128 Epoch 48/1000
129 - 1s - Loss: 40709.6402 - mean_squared_error: 40709.6402 - val_Loss: 35789.5718 - val_mean_squared_error
     35789.5718
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File - run (1)
130 Epoch 49/1000
     - 1s - loss: 42094.7319 - mean_squared_error: 42094.7319 - val_loss: 31522.3782 - val_mean_squared_error
      31522.3782
132 Epoch 50/1000
     - 1s - loss: 40134.0864 - mean_squared_error: 40134.0864 - val_loss: 32954.3700 - val_mean_squared_error
      32954.3700
134 Epoch 51/1000
135
     - 1s - loss: 42118.3967 - mean_squared_error: 42118.3967 - val_loss: 32417.6655 - val_mean_squared_error
      32417.6655
136 Epoch 52/1000
     - 1s - loss: 41557.5133 - mean_squared_error: 41557.5133 - val_loss: 34936.0423 - val_mean_squared_error
137
      34936.0423
138 Epoch 53/1000
     - 1s - loss: 42758.7721 - mean_squared_error: 42758.7721 - val_loss: 35240.1914 - val_mean_squared_error
     35240. 1914
140 Epoch 54/1000
     - 1s - loss: 41677.6099 - mean_squared_error: 41677.6099 - val_loss: 34106.7805 - val_mean_squared_error
      34106.7805
142 Epoch 55/1000
     - 1s - Loss: 40233.2235 - mean_squared_error: 40233.2235 - val_Loss: 41819.5558 - val_mean_squared_error
      41819. 5558
144 Epoch 56/1000
     - 1s - loss: 40899.1015 - mean_squared_error: 40899.1015 - val_loss: 34049.4067 - val_mean_squared_error
      34049. 4067
146 Epoch 57/1000
     - 1s - loss: 42152.9029 - mean_squared_error: 42152.9029 - val_loss: 35158.4630 - val_mean_squared_error
      35158. 4630
148 Epoch 58/1000
     - 1s - loss: 41320.8731 - mean_squared_error: 41320.8731 - val_loss: 35760.0819 - val_mean_squared_error
     35760.0819
150 Epoch 59/1000
     - 1s - Loss: 40017.6608 - mean_squared_error: 40017.6608 - val_Loss: 39273.1544 - val_mean_squared_error
     39273.1544
152 Epoch 60/1000
     - 1s - loss: 41158.6459 - mean_squared_error: 41158.6459 - val_loss: 36472.0128 - val_mean_squared_error
153
     36472.0128
154 Epoch 61/1000
     - 1s - Loss: 40472.0829 - mean_squared_error: 40472.0829 - val_Loss: 37973.7074 - val_mean_squared_error
      37973.7074
156 Epoch 62/1000
     - 1s - loss: 40217.1168 - mean_squared_error: 40217.1168 - val_loss: 39706.305<u>0 - val_mean_squared_error</u>
157
      39706.3050
158 Epoch 63/1000
     - 1s - loss: 40180.9624 - mean_squared_error: 40180.9624 - val_loss: 44222.5692 - val_mean_squared_error
159
      44222. 5692
160 Epoch 64/1000
     - 1s - Loss: 39943.6728 - mean squared error: 39943.6728 - val loss: 52449.4957 - val mean squared error
      52449, 4957
162 Epoch 65/1000
     - 1s - loss: 40304.1397 - mean_squared_error: 40304.1397 - val_loss: 39854.7228 - val_mean_squared_error
      39854.7228
164 Epoch 66/1000
     - 1s - Loss: 40149.7015 - mean_squared_error: 40149.7015 - val_Loss: 40253.7298 - val_mean_squared_error
      40253.7298
166 Epoch 67/1000
     - 1s - loss: 39697.6472 - mean_squared_error: 39697.6472 - val_loss: 55145.9714 - val_mean_squared_error
      55145. 9714
168 Epoch 68/1000
     - 1s - Loss: 39514.8713 - mean_squared_error: 39514.8713 - val_Loss: 48926.4641 - val_mean_squared_error
      48926. 4641
170 Epoch 69/1000
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File - run (1)
      - 1s - Loss: 39881.4748 - mean_squared_error: 39881.4748 - val_Loss: 39374.7628 - val_mean_squared_error
      39374.7628
172 Epoch 70/1000
173
     - 1s - loss: 39674.6461 - mean_squared_error: 39674.6461 - val_loss: 39713.9438 - val_mean_squared_error
      39713.9438
174 Epoch 71/1000
175
     - 1s - loss: 39374.9146 - mean_squared_error: 39374.9146 - val_loss: 46740.2059 - val_mean_squared_error
      46740. 2059
176 Epoch 72/1000
     - 1s - loss: 39523.2393 - mean_squared_error: 39523.2393 - val_loss: 58635.7380 - val_mean_squared_error
177
      58635.7380
178 Epoch 73/1000
     - 1s - loss: 39350.3685 - mean_squared_error: 39350.3685 - val_loss: 49407.5835 - val_mean_squared_error
      49407.5835
180 Epoch 74/1000
     - 1s - loss: 39482.1316 - mean_squared_error: 39482.1316 - val_loss: 40610.5316 - val_mean_squared_error
      40610.5316
182 Epoch 75/1000
     - 1s - loss: 39295.7048 - mean_squared_error: 39295.7048 - val_loss: 42649.8424 - val_mean_squared_error
183
      42649.8424
    Epoch 76/1000
     - 1s - loss: 39201.0964 - mean_squared_error: 39201.0964 - val_loss: 47785.1258 - val_mean_squared_error
      47785. 1258
186 Epoch 77/1000
     - 1s - loss: 39222.9358 - mean_squared_error: 39222.9358 - val_loss: 50397.9600 - val_mean_squared_error
      50397.9600
188 Epoch 78/1000
     - 1s - loss: 39602.1751 - mean_squared_error: 39602.1751 - val_loss: 62644.3315 - val_mean_squared_error
      62644.3315
190 Epoch 79/1000
     - 1s - Loss: 39211.1049 - mean squared error: 39211.1049 - val Loss: 51799.6637 - val mean squared error
      51799.6637
192 Epoch 80/1000
     - 1s - loss: 38807.7974 - mean_squared_error: 38807.7974 - val_loss: 41433.3115 - val_mean_squared_error
193
      41433. 3115
194 Epoch 81/1000
195
     - 1s - Loss: 39245.7091 - mean_squared_error: 39245.7091 - val_Loss: 41014.3602 - val_mean_squared_error
      41014.3602
196 Epoch 82/1000
     - 1s - Loss: 39296.3543 - mean_squared_error: 39296.3543 - val_Loss: 41382.3735 - val_mean_squared_error
197
      41382.3735
198 Epoch 83/1000
     - 1s - loss: 38954.4089 - mean_squared_error: 38954.4089 - val_loss: 47541.7985 - val_mean_squared_error
199
      47541. 7985
200 Epoch 84/1000
     - 1s - loss: 38962.6574 - mean_squared_error: 38962.6574 - val_loss: 47901.1821 - val_mean_squared_error
      47901. 1821
202 Epoch 85/1000
     - 1s - loss: 39402.6633 - mean_squared_error: 39402.6633 - val_loss: 59180.4701 - val_mean_squared_error
      59180.4701
204 Epoch 86/1000
     - 1s - loss: 38901.8842 - mean_squared_error: 38901.8842 - val_loss: 45682.9421 - val_mean_squared_error
205
      45682.9421
    Epoch 87/1000
     - 1s - loss: 39240.5413 - mean_squared_error: 39240.5413 - val_loss: 40299.9851 - val_mean_squared_error
      40299. 9851
208 Epoch 88/1000
     - 1s - loss: 38856.5013 - mean_squared_error: 38856.5013 - val_loss: 44274.7087 - val_mean_squared_error
      44274.7087
210 Epoch 89/1000
211 - 1s - Loss: 38749.4225 - mean_squared_error: 38749.4225 - val_Loss: 46412.4120 - val_mean_squared_error
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File - run (1)
     46412.4120
212 Epoch 90/1000
     - 1s - Loss: 39030.0831 - mean_squared_error: 39030.0831 - val_Loss: 48640.6015 - val_mean_squared_error
213
214 Epoch 91/1000
     - 1s - loss: 38570.5247 - mean_squared_error: 38570.5247 - val_loss: 38604.5189 - val_mean_squared_error
215
     38604. 5189
216 Epoch 92/1000
217
     - 1s - loss: 38692.6457 - mean_squared_error: 38692.6457 - val_loss: 35844.7177 - val_mean_squared_error
      35844.7177
218 Epoch 93/1000
     - 1s - loss: 39146.6804 - mean_squared_error: 39146.6804 - val_loss: 37469.3922 - val_mean_squared_error
     37469, 3922
220 Epoch 94/1000
     - 1s - loss: 38929.8436 - mean_squared_error: 38929.8436 - val_loss: 42777.3402 - val_mean_squared_error
      42777.3402
222 Epoch 95/1000
     - 1s - Loss: 38793.2026 - mean_squared_error: 38793.2026 - val_Loss: 45211.6998 - val_mean_squared_error
     45211.6998
224 Epoch 96/1000
     - 1s - loss: 38667.8660 - mean_squared_error: 38667.8660 - val_loss: 49645.4489 - val_mean_squared_error
      49645. 4489
226 Epoch 97/1000
     - 1s - loss: 39039.5838 - mean_squared_error: 39039.5838 - val_loss: 49104.8680 - val_mean_squared_error
      49104.8680
228 Epoch 98/1000
     - 1s - loss: 38288.0641 - mean_squared_error: 38288.0641 - val_loss: 39948.3955 - val_mean_squared_error
      39948.3955
230 Epoch 99/1000
     - 1s - loss: 38523.6497 - mean squared error: 38523.6497 - val loss: 36172.7705 - val mean squared error
      36172.7705
232 Epoch 100/1000
     - 1s - loss: 39165.9440 - mean_squared_error: 39165.9440 - val_loss: 36589.2302 - val_mean_squared_error
233
      36589. 2302
234 Epoch 101/1000
     - 1s - loss: 38818.1810 - mean_squared_error: 38818.1810 - val_loss: 44565.1817 - val_mean_squared_error
235
      44565. 1817
236 Epoch 102/1000
     - 1s - loss: 38324.2358 - mean_squared_error: 38324.2358 - val_loss: 46529.3641 - val_mean_squared_error
      46529, 3641
238 Epoch 103/1000
     - 1s - loss: 38704.4876 - mean_squared_error: 38704.4876 - val_loss: 39806.832<u>0 - val_mean_squared_error</u>
239
      39806.8320
240 Epoch 104/1000
     - 1s - loss: 38543.2731 - mean_squared_error: 38543.2731 - val_loss: 47577.1121 - val_mean_squared_error
      47577. 1121
242 Epoch 105/1000
     - 1s - loss: 38741.6471 - mean_squared_error: 38741.6471 - val_loss: 47880.9477 - val_mean_squared_error
     47880. 9477
244 Epoch 106/1000
     - 1s - loss: 38853.3027 - mean_squared_error: 38853.3027 - val_loss: 46054.2694 - val_mean_squared_error
     46054.2694
246 Epoch 107/1000
     - 1s - loss: 38461.9073 - mean_squared_error: 38461.9073 - val_loss: 50124.2099 - val_mean_squared_error
      50124. 2099
248 Epoch 108/1000
     - 1s - Loss: 38731.1695 - mean_squared_error: 38731.1695 - val_Loss: 47953.2880 - val_mean_squared_error
     47953. 2880
250 Epoch 109/1000
251 - 1s - Loss: 38132.3669 - mean_squared_error: 38132.3669 - val_Loss: 40509.2193 - val_mean_squared_error
     40509. 2193
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File - run (1)
252 Epoch 110/1000
     - 1s - loss: 38296.9206 - mean_squared_error: 38296.9206 - val_loss: 36914.7966 - val_mean_squared_error
      36914.7966
254 Epoch 111/1000
     - 1s - loss: 38636.7829 - mean_squared_error: 38636.7829 - val_loss: 37111.1254 - val_mean_squared_error
255
      37111. 1254
256 Epoch 112/1000
257
     - 1s - loss: 37850.7310 - mean_squared_error: 37850.7310 - val_loss: 40821.3915 - val_mean_squared_error
      40821.3915
258 Epoch 113/1000
     - 1s - loss: 38485.9059 - mean_squared_error: 38485.9059 - val_loss: 40211.1242 - val_mean_squared_error
259
      40211. 1242
260 Epoch 114/1000
     - 1s - loss: 38411.4727 - mean_squared_error: 38411.4727 - val_loss: 47054.4703 - val_mean_squared_error
      47054.4703
262 Epoch 115/1000
     - 1s - loss: 38243.9472 - mean_squared_error: 38243.9472 - val_loss: 47573.2873 - val_mean_squared_error
      47573. 2873
264 Epoch 116/1000
     - 1s - loss: 38028.4800 - mean_squared_error: 38028.4800 - val_loss: 40543.1708 - val_mean_squared_error
      40543.1708
266 Epoch 117/1000
     - 1s - loss: 38256.7516 - mean_squared_error: 38256.7516 - val_loss: 42938.5501 - val_mean_squared_error
      42938.5501
268 Epoch 118/1000
     - 1s - loss: 38398.4338 - mean_squared_error: 38398.4338 - val_loss: 48436.1905 - val_mean_squared_error
      48436. 1905
270 Epoch 119/1000
     - 1s - loss: 38272.1723 - mean_squared_error: 38272.1723 - val_loss: 49341.7615 - val_mean_squared_error
      49341.7615
272 Epoch 120/1000
273 - 1s - Loss: 38082.1022 - mean_squared_error: 38082.1022 - val_Loss: 43660.0482 - val_mean_squared_error
     43660.0482
274 Epoch 121/1000
     - 1s - loss: 38664.4345 - mean_squared_error: 38664.4345 - val_loss: 40798.8002 - val_mean_squared_error
275
     40798.8002
276 Epoch 122/1000
     - 1s - loss: 37860.2788 - mean_squared_error: 37860.2788 - val_loss: 45168.237<u>4 - val_mean_squared_error</u>
      45168. 2374
278 Epoch 123/1000
     - 1s - loss: 38287.8654 - mean_squared_error: 38287.8654 - val_loss: 42547.7236 - val_mean_squared_error
279
     42547.7236
280 Epoch 124/1000
     - 1s - loss: 38005.5998 - mean_squared_error: 38005.5998 - val_loss: 47350.1335 - val_mean_squared_error
281
      47350.1335
282 Epoch 125/1000
     - 1s - loss: 38069.6628 - mean squared error: 38069.6628 - val loss: 44321.7798 - val mean squared error
     44321.7798
284 Epoch 126/1000
     - 1s - Loss: 38253.5950 - mean_squared_error: 38253.5950 - val_Loss: 43267.7011 - val_mean_squared_error
      43267.7011
286 Epoch 127/1000
     - 1s - loss: 37939.4893 - mean_squared_error: 37939.4893 - val_loss: 46167.4923 - val_mean_squared_error
      46167.4923
288 Epoch 128/1000
     - 1s - loss: 38338.4238 - mean_squared_error: 38338.4238 - val_loss: 50214.4242 - val_mean_squared_error
      50214. 4242
290 Epoch 129/1000
     - 1s - Loss: 38116.3760 - mean_squared_error: 38116.3760 - val_Loss: 46517.2643 - val_mean_squared_error
     46517. 2643
292 Epoch 130/1000
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File - run (1)
      - 1s - Loss: 38151.4993 - mean_squared_error: 38151.4993 - val_Loss: 43589.4841 - val_mean_squared_error
      43589. 4841
294 Epoch 131/1000
     - 1s - loss: 37892.8063 - mean_squared_error: 37892.8063 - val_loss: 45912.4590 - val_mean_squared_error
295
296 Epoch 132/1000
297
     - 1s - Loss: 38311.6334 - mean_squared_error: 38311.6334 - val_Loss: 50574.3714 - val_mean_squared_error
      50574.3714
298 Epoch 133/1000
     - 1s - loss: 38458.0359 - mean_squared_error: 38458.0359 - val_loss: 43479.7702 - val_mean_squared_error
299
      43479.7702
300 Epoch 134/1000
     - 1s - loss: 37808.1130 - mean_squared_error: 37808.1130 - val_loss: 46457.9655 - val_mean_squared_error
      46457. 9655
302 Epoch 135/1000
     - 1s - Loss: 38343.4580 - mean_squared_error: 38343.4580 - val_Loss: 51235.9786 - val_mean_squared_error
     51235. 9786
304 Epoch 136/1000
     - 1s - loss: 38195.3340 - mean_squared_error: 38195.3340 - val_loss: 45793.6167 - val_mean_squared_error
      45793.6167
    Epoch 137/1000
306
     - 1s - loss: 37865.5981 - mean_squared_error: 37865.5981 - val_loss: 40785.4010 - val_mean_squared_error
      40785.4010
308 Epoch 138/1000
     - 1s - Loss: 38237.0486 - mean_squared_error: 38237.0486 - val_Loss: 42638.1538 - val_mean_squared_error
      42638. 1538
310 Epoch 139/1000
     - 1s - loss: 37926.9903 - mean_squared_error: 37926.9903 - val_loss: 43889.3014 - val_mean_squared_error
      43889.3014
312 Epoch 140/1000
     - 1s - loss: 38129.6070 - mean squared error: 38129.6070 - val loss: 49140.3545 - val mean squared error
     49140.3545
314 Epoch 141/1000
     - 1s - loss: 38353.4545 - mean_squared_error: 38353.4545 - val_loss: 42958.7886 - val_mean_squared_error
315
      42958.7886
316 Epoch 142/1000
317
     - 1s - Loss: 38098.5063 - mean_squared_error: 38098.5063 - val_Loss: 44353.2662 - val_mean_squared_error
      44353. 2662
318 Epoch 143/1000
319
     - 1s - Loss: 38327.3805 - mean_squared_error: 38327.3805 - val_Loss: 51062.2798 - val_mean_squared_error
      51062.2798
320 Epoch 144/1000
     - 1s - loss: 38128.0726 - mean_squared_error: 38128.0726 - val_loss: 43054.3896 - val_mean_squared_error
321
      43054.3896
322 Epoch 145/1000
     - 1s - loss: 37932.9483 - mean_squared_error: 37932.9483 - val_loss: 41835.6999 - val_mean_squared_error
     41835.6999
324 Epoch 146/1000
     - 1s - loss: 38076.7354 - mean_squared_error: 38076.7354 - val_loss: 42949.9648 - val_mean_squared_error
      42949. 9648
326 Epoch 147/1000
     - 1s - loss: 38042.2218 - mean_squared_error: 38042.2218 - val_loss: 46375.1006 - val_mean_squared_error
327
      46375. 1006
328 Epoch 148/1000
     - 1s - Loss: 38081.3909 - mean_squared_error: 38081.3909 - val_Loss: 47110.1509 - val_mean_squared_error
      47110. 1509
330 Epoch 149/1000
     - 1s - loss: 38423.5316 - mean_squared_error: 38423.5316 - val_loss: 52184.9752 - val_mean_squared_error
      52184.9752
332 Epoch 150/1000
333 - 1s - loss: 38027.9127 - mean_squared_error: 38027.9127 - val_loss: 44161.45<u>35 - val_mean_squared_error</u>
```

```
File - run (1)
     44161. 4535
334 Epoch 151/1000
     - 1s - loss: 37922.5898 - mean_squared_error: 37922.5898 - val_loss: 40257.5970 - val_mean_squared_error
      40257.5970
336 Epoch 152/1000
     - 1s - loss: 37846.0722 - mean_squared_error: 37846.0722 - val_loss: 38008.6778 - val_mean_squared_error
      38008, 6778
338 Epoch 153/1000
     - 1s - loss: 37489.2598 - mean_squared_error: 37489.2598 - val_loss: 42870.2891 - val_mean_squared_error
339
      42870. 2891
340 Epoch 154/1000
     - 1s - loss: 38166.8292 - mean_squared_error: 38166.8292 - val_loss: 39536.1443 - val_mean_squared_error
342 Epoch 155/1000
     - 1s - Loss: 37905.7781 - mean_squared_error: 37905.7781 - val_loss: 43076.8468 - val_mean_squared_error
     43076.8468
344 Epoch 156/1000
     - 1s - Loss: 38122.4560 - mean_squared_error: 38122.4560 - val_Loss: 47449.9994 - val_mean_squared_error
      47449. 9994
346 Epoch 157/1000
     - 1s - loss: 38464.0714 - mean_squared_error: 38464.0714 - val_loss: 49897.8479 - val_mean_squared_error
      49897.8479
348 Epoch 158/1000
     - 1s - loss: 37827.3141 - mean_squared_error: 37827.3141 - val_loss: 43300.3170 - val_mean_squared_error
      43300.3170
350 Epoch 159/1000
     - 1s - Loss: 38219.8344 - mean_squared_error: 38219.8344 - val_Loss: 38267.8197 - val_mean_squared_error
      38267.8197
352 Epoch 160/1000
     - 1s - loss: 37751.8203 - mean squared error: 37751.8203 - val loss: 39748.6408 - val mean squared error
     39748.6408
354 Epoch 161/1000
     - 1s - Loss: 37843.1896 - mean_squared_error: 37843.1896 - val_loss: 45532.3207 - val_mean_squared_error
      45532.3207
356 Epoch 162/1000
     - 1s - loss: 38015.0513 - mean_squared_error: 38015.0513 - val_loss: 43814.362<u>1 - val_mean_squared_error</u>
357
     43814.3621
358 Epoch 163/1000
     - 1s - loss: 38062.7887 - mean_squared_error: 38062.7887 - val_loss: 40036.2347 - val_mean_squared_error
      40036, 2347
360 Epoch 164/1000
     - 1s - loss: 37736.0300 - mean_squared_error: 37736.0300 - val_loss: 40918.853<u>4 - val_mean_squared_error</u>
361
      40918.8534
362 Epoch 165/1000
     - 1s - loss: 37895.8702 - mean_squared_error: 37895.8702 - val_loss: 46733.7574 - val_mean_squared_error
      46733.7574
364 Epoch 166/1000
     - 1s - loss: 39165.4895 - mean_squared_error: 39165.4895 - val_loss: 54324.6503 - val_mean_squared_error
     54324.6503
366 Epoch 167/1000
     - 1s - loss: 38874.8541 - mean_squared_error: 38874.8541 - val_loss: 50887.6222 - val_mean_squared_error
      50887.6222
368 Epoch 168/1000
     - 1s - loss: 37961.6035 - mean_squared_error: 37961.6035 - val_loss: 39750.9746 - val_mean_squared_error
      39750.9746
370 Epoch 169/1000
     - 1s - loss: 37566.0339 - mean_squared_error: 37566.0339 - val_loss: 37196.5466 - val_mean_squared_error
      37196.5466
372 Epoch 170/1000
373 - 1s - Loss: 37999.5585 - mean_squared_error: 37999.5585 - val_Loss: 35050.8078 - val_mean_squared_error
     35050.8078
```

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File - run (1)
374 Epoch 171/1000
     - 1s - loss: 37225.3386 - mean_squared_error: 37225.3386 - val_loss: 39800.4538 - val_mean_squared_error
      39800.4538
376 Epoch 172/1000
     - 1s - Loss: 38151.8269 - mean_squared_error: 38151.8269 - val_Loss: 37315.5647 - val_mean_squared_error
377
      37315.5647
378 Epoch 173/1000
379
     - 1s - loss: 37279.6575 - mean_squared_error: 37279.6575 - val_loss: 42460.5679 - val_mean_squared_error
      42460.5679
380 Epoch 174/1000
     - 1s - loss: 37738.0250 - mean_squared_error: 37738.0250 - val_loss: 40379.8988 - val_mean_squared_error
381
      40379.8988
382 Epoch 175/1000
     - 1s - loss: 37885.0479 - mean_squared_error: 37885.0479 - val_loss: 38977.5805 - val_mean_squared_error
      38977.5805
384 Epoch 176/1000
     - 1s - loss: 37792.8096 - mean_squared_error: 37792.8096 - val_loss: 40223.7984 - val_mean_squared_error
      40223.7984
386 Epoch 177/1000
     - 1s - loss: 37910.6147 - mean_squared_error: 37910.6147 - val_loss: 45607.8279 - val_mean_squared_error
      45607.8279
388
    Epoch 178/1000
     - 1s - loss: 38801.8523 - mean_squared_error: 38801.8523 - val_loss: 48924.4777 - val_mean_squared_error
      48924.4777
390 Epoch 179/1000
     - 1s - loss: 37865.1606 - mean_squared_error: 37865.1606 - val_loss: 43768.8005 - val_mean_squared_error
     43768.8005
392 Epoch 180/1000
     - 1s - loss: 37715.9441 - mean_squared_error: 37715.9441 - val_loss: 39404.6337 - val_mean_squared_error
     39404.6337
394 Epoch 181/1000
     - 1s - loss: 37614.7814 - mean_squared_error: 37614.7814 - val_loss: 39407.5095 - val_mean_squared_error
     39407.5095
396 Epoch 182/1000
     - 1s - loss: 37708.5677 - mean_squared_error: 37708.5677 - val_loss: 42612.5453 - val_mean_squared_error
397
      42612.5453
398 Epoch 183/1000
399
      - 1s - Loss: 37858.8630 - mean_squared_error: 37858.8630 - val_Loss: 45031.7305 - val_mean_squared_error
      45031.7305
400 Epoch 184/1000
     - 1s - loss: 37770.0090 - mean_squared_error: 37770.0090 - val_loss: 44428.9781 - val_mean_squared_error
401
     44428.9781
402 Epoch 185/1000
     - 1s - loss: 37734.7469 - mean_squared_error: 37734.7469 - val_loss: 42295.3552 - val_mean_squared_error
403
      42295.3552
404 Epoch 186/1000
     - 1s - loss: 37632.2628 - mean squared error: 37632.2628 - val loss: 40832.2746 - val mean squared error
      40832.2746
406 Epoch 187/1000
     - 1s - loss: 37896.6395 - mean_squared_error: 37896.6395 - val_loss: 41077.7627 - val_mean_squared_error
407
      41077. 7627
408 Epoch 188/1000
     - 1s - loss: 37760.6403 - mean_squared_error: 37760.6403 - val_loss: 42570.9688 - val_mean_squared_error
      42570.9688
410 Epoch 189/1000
     - 1s - loss: 38302.9555 - mean_squared_error: 38302.9555 - val_loss: 48152.8264 - val_mean_squared_error
      48152.8264
412 Epoch 190/1000
     - 1s - Loss: 38861.7267 - mean_squared_error: 38861.7267 - val_Loss: 50532.9559 - val_mean_squared_error
     50532.9559
414 Epoch 191/1000
```

```
File - run (1)
      - 1s - Loss: 37802.8969 - mean_squared_error: 37802.8969 - val_Loss: 44354.6568 - val_mean_squared_error
      44354.6568
416 Epoch 192/1000
     - 1s - loss: 37421.4914 - mean_squared_error: 37421.4914 - val_loss: 42878.5528 - val_mean_squared_error
417
418 Epoch 193/1000
419
     - 1s - loss: 37585.2715 - mean_squared_error: 37585.2715 - val_loss: 39854.2783 - val_mean_squared_error
      39854.2783
420 Epoch 194/1000
     - 1s - loss: 37472.3137 - mean_squared_error: 37472.3137 - val_loss: 41889.3315 - val_mean_squared_error
421
      41889. 3315
422 Epoch 195/1000
     - 1s - loss: 37775.4815 - mean_squared_error: 37775.4815 - val_loss: 44568.6670 - val_mean_squared_error
      44568.6670
424 Epoch 196/1000
     - 1s - loss: 37618.7331 - mean_squared_error: 37618.7331 - val_loss: 44120.0215 - val_mean_squared_error
      44120.0215
426 Epoch 197/1000
     - 1s - loss: 37667.5106 - mean_squared_error: 37667.5106 - val_loss: 42675.2748 - val_mean_squared_error
427
      42675. 2748
428 Epoch 198/1000
     - 1s - loss: 37599.9270 - mean_squared_error: 37599.9270 - val_loss: 42461.2307 - val_mean_squared_error
      42461. 2307
430 Epoch 199/1000
     - 1s - loss: 37700.9357 - mean_squared_error: 37700.9357 - val_loss: 41216.0541 - val_mean_squared_error
      41216.0541
432 Epoch 200/1000
     - 1s - loss: 37847.3476 - mean_squared_error: 37847.3476 - val_loss: 44313.7448 - val_mean_squared_error
      44313.7448
434 Epoch 201/1000
     - 1s - loss: 38072.8623 - mean squared error: 38072.8623 - val loss: 48489.8911 - val mean squared error
      48489, 8911
436 Epoch 202/1000
     - 1s - loss: 38613.2216 - mean_squared_error: 38613.2216 - val_loss: 51868.7139 - val_mean_squared_error
437
     51868.7139
438 Epoch 203/1000
     - 1s - loss: 37906.5119 - mean_squared_error: 37906.5119 - val_loss: 46845.7208 - val_mean_squared_error
      46845.7208
440 Epoch 204/1000
     - 1s - loss: 37895.5466 - mean_squared_error: 37895.5466 - val_loss: 43787.2560 - val_mean_squared_error
441
      43787. 2560
442 Epoch 205/1000
     - 1s - loss: 37333.5321 - mean_squared_error: 37333.5321 - val_loss: 42544.9255 - val_mean_squared_error
443
      42544. 9255
444 Epoch 206/1000
     - 1s - Loss: 37521.3338 - mean_squared_error: 37521.3338 - val_loss: 40141.9976 - val_mean_squared_error
      40141. 9976
446 Epoch 207/1000
     - 1s - loss: 37642.6531 - mean_squared_error: 37642.6531 - val_loss: 41808.2663 - val_mean_squared_error
      41808. 2663
448 Epoch 208/1000
     - 1s - loss: 37663.9473 - mean_squared_error: 37663.9473 - val_loss: 44619.6333 - val_mean_squared_error
449
      44619.6333
450 Epoch 209/1000
     - 1s - Loss: 38129.1240 - mean_squared_error: 38129.1240 - val_Loss: 45487.1491 - val_mean_squared_error
      45487. 1491
452 Epoch 210/1000
     - 1s - loss: 37966.0711 - mean_squared_error: 37966.0711 - val_loss: 44296.7528 - val_mean_squared_error
      44296. 7528
454 Epoch 211/1000
455 - 1s - Loss: 37649.3632 - mean_squared_error: 37649.3632 - val_Loss: 44208.2770 - val_mean_squared_error
```

```
File - run (1)
     44208.2770
456 Epoch 212/1000
     - 1s - loss: 37848.5371 - mean_squared_error: 37848.5371 - val_loss: 40719.7276 - val_mean_squared_error
      40719.7276
458 Epoch 213/1000
     - 1s - loss: 37451.2015 - mean_squared_error: 37451.2015 - val_loss: 41452.7437 - val_mean_squared_error
      41452, 7437
460 Epoch 214/1000
     - 1s - loss: 37649.4628 - mean_squared_error: 37649.4628 - val_loss: 44832.4761 - val_mean_squared_error
461
      44832.4761
462 Epoch 215/1000
     - 1s - loss: 37977.1274 - mean_squared_error: 37977.1274 - val_loss: 45881.6945 - val_mean_squared_error
      45881.6945
464 Epoch 216/1000
     - 1s - loss: 37845.5334 - mean_squared_error: 37845.5334 - val_loss: 45416.0873 - val_mean_squared_error
      45416.0873
466 Epoch 217/1000
     - 1s - loss: 37764.2048 - mean_squared_error: 37764.2048 - val_loss: 44764.2061 - val_mean_squared_error
     44764.2061
468 Epoch 218/1000
     - 1s - loss: 37632.9015 - mean_squared_error: 37632.9015 - val_loss: 42816.3997 - val_mean_squared_error
      42816. 3997
470 Epoch 219/1000
     - 1s - loss: 37508.5053 - mean_squared_error: 37508.5053 - val_loss: 44432.4712 - val_mean_squared_error
      44432.4712
472 Epoch 220/1000
     - 1s - loss: 37736.1706 - mean_squared_error: 37736.1706 - val_loss: 42292.0371 - val_mean_squared_error
      42292.0371
474 Epoch 221/1000
     - 1s - loss: 37690.9918 - mean squared error: 37690.9918 - val loss: 42405.1469 - val mean squared error
      42405. 1469
476 Epoch 222/1000
     - 1s - loss: 37768.4916 - mean_squared_error: 37768.4916 - val_loss: 42365.5757 - val_mean_squared_error
      42365. 5757
478 Epoch 223/1000
     - 1s - loss: 37758.4543 - mean_squared_error: 37758.4543 - val_loss: 42134.4706 - val_mean_squared_error
479
      42134.4706
480 Epoch 224/1000
     - 1s - loss: 37575.7888 - mean_squared_error: 37575.7888 - val_loss: 44088.7974 - val_mean_squared_error
      44088.7974
482 Epoch 225/1000
     - 1s - loss: 38365.7924 - mean_squared_error: 38365.7924 - val_loss: 48772.324<u>3 - val_mean_squared_error</u>
483
      48772.3243
484 Epoch 226/1000
     - 1s - loss: 38861.3366 - mean_squared_error: 38861.3366 - val_loss: 66639.9066 - val_mean_squared_error
      66639.9066
486 Epoch 227/1000
     - 1s - loss: 39021.2095 - mean_squared_error: 39021.2095 - val_loss: 57864.8914 - val_mean_squared_error
      57864.8914
488 Epoch 228/1000
     - 1s - Loss: 37648.3921 - mean_squared_error: 37648.3921 - val_loss: 44653.0441 - val_mean_squared_error
     44653.0441
490 Epoch 229/1000
     - 1s - loss: 37151.6948 - mean_squared_error: 37151.6948 - val_loss: 39698.0010 - val_mean_squared_error
      39698.0010
492 Epoch 230/1000
     - 1s - loss: 37276.0708 - mean_squared_error: 37276.0708 - val_loss: 38961.2766 - val_mean_squared_error
      38961.2766
494 Epoch 231/1000
495 - 1s - Loss: 37161.8281 - mean_squared_error: 37161.8281 - val_Loss: 40115.7290 - val_mean_squared_error
     40115.7290
```

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File - run (1)
496 Epoch 232/1000
     - 1s - Ioss: 37585.3109 - mean_squared_error: 37585.3109 - val_loss: 39145.6405 - val_mean_squared_error
      39145.6405
498 Epoch 233/1000
     - 1s - Loss: 37347.8909 - mean_squared_error: 37347.8909 - val_Loss: 40879.0101 - val_mean_squared_error
499
      40879.0101
500 Epoch 234/1000
501
     - 1s - loss: 38071.3522 - mean_squared_error: 38071.3522 - val_loss: 46764.4879 - val_mean_squared_error
      46764. 4879
502 Epoch 235/1000
     - 1s - loss: 37989.3083 - mean_squared_error: 37989.3083 - val_loss: 46425.3009 - val_mean_squared_error
503
      46425.3009
504 Epoch 236/1000
     - 1s - loss: 37441.2797 - mean_squared_error: 37441.2797 - val_loss: 43345.8303 - val_mean_squared_error
     43345.8303
506 Epoch 237/1000
     - 1s - loss: 37513.3412 - mean_squared_error: 37513.3412 - val_loss: 41696.3488 - val_mean_squared_error
      41696.3488
508 Epoch 238/1000
     - 1s - loss: 37963.6988 - mean_squared_error: 37963.6988 - val_loss: 47556.0309 - val_mean_squared_error
      47556.0309
510 Epoch 239/1000
     - 1s - Loss: 38635.7131 - mean_squared_error: 38635.7131 - val_Loss: 52516.2298 - val_mean_squared_error
      52516. 2298
512 Epoch 240/1000
     - 1s - Loss: 38931.1715 - mean_squared_error: 38931.1715 - val_Loss: 55806.4430 - val_mean_squared_error
     55806.4430
514 Epoch 241/1000
515 - 1s - Loss: 37869.5827 - mean_squared_error: 37869.5827 - val_Loss: 47652.2198 - val_mean_squared_error
     47652. 2198
516 Epoch 242/1000
517 - 1s - loss: 36996.0467 - mean_squared_error: 36996.0467 - val_loss: 41712.3056 - val_mean_squared_error
     41712.3056
518 Epoch 243/1000
     - 1s - loss: 37245.6839 - mean_squared_error: 37245.6839 - val_loss: 40281.2630 - val_mean_squared_error
519
      40281. 2630
520 Epoch 244/1000
     - 1s - loss: 37153.0496 - mean_squared_error: 37153.0496 - val_loss: 41421.0346 - val_mean_squared_error
      41421.0346
522 Epoch 245/1000
523
     - 1s - loss: 37370.0391 - mean_squared_error: 37370.0391 - val_loss: 40814.1893 - val_mean_squared_error
      40814. 1893
524 Epoch 246/1000
     - 1s - loss: 37511.2174 - mean_squared_error: 37511.2174 - val_loss: 40570.3609 - val_mean_squared_error
      40570.3609
526 Epoch 247/1000
     - 1s - loss: 38305.7966 - mean squared error: 38305.7966 - val loss: 50442.9484 - val mean squared error
      50442.9484
528 Epoch 248/1000
     - 1s - Loss: 38736.2548 - mean_squared_error: 38736.2548 - val_Loss: 58668.7775 - val_mean_squared_error
      58668.7775
530 Epoch 249/1000
     - 1s - loss: 38418.4482 - mean_squared_error: 38418.4482 - val_loss: 53984.4291 - val_mean_squared_error
      53984.4291
532 Epoch 250/1000
     - 1s - loss: 37544.6539 - mean_squared_error: 37544.6539 - val_loss: 45232.0233 - val_mean_squared_error
      45232.0233
534 Epoch 251/1000
     - 1s - loss: 37030.0370 - mean_squared_error: 37030.0370 - val_loss: 40885.5956 - val_mean_squared_error
     40885. 5956
536 Epoch 252/1000
```

```
File - run (1)
      - 1s - Loss: 37150.5651 - mean_squared_error: 37150.5651 - val_Loss: 39679.5407 - val_mean_squared_error
      39679. 5407
538 Epoch 253/1000
539
     - 1s - loss: 37131.0170 - mean_squared_error: 37131.0170 - val_loss: 40529.9860 - val_mean_squared_error
540 Epoch 254/1000
541
     - 1s - loss: 37306.6390 - mean_squared_error: 37306.6390 - val_loss: 40242.1104 - val_mean_squared_error
      40242.1104
542 Epoch 255/1000
     - 1s - loss: 38060.1698 - mean_squared_error: 38060.1698 - val_loss: 49280.6456 - val_mean_squared_error
543
      49280.6456
544 Epoch 256/1000
     - 1s - Loss: 38818.1874 - mean_squared_error: 38818.1874 - val_loss: 59800.0131 - val_mean_squared_error
     59800.0131
546 Epoch 257/1000
     - 1s - loss: 38284.6088 - mean_squared_error: 38284.6088 - val_loss: 53348.0509 - val_mean_squared_error
     53348.0509
548 Epoch 258/1000
     - 1s - loss: 37387.4700 - mean_squared_error: 37387.4700 - val_loss: 44806.3658 - val_mean_squared_error
     44806.3658
550 Epoch 259/1000
     - 1s - loss: 36972.1472 - mean_squared_error: 36972.1472 - val_loss: 41047.4360 - val_mean_squared_error
      41047. 4360
552 Epoch 260/1000
     - 1s - Ioss: 37107.8365 - mean_squared_error: 37107.8365 - val_loss: 40071.4626 - val_mean_squared_error
      40071.4626
554 Epoch 261/1000
     - 1s - loss: 37086.1697 - mean_squared_error: 37086.1697 - val_loss: 40878.3006 - val_mean_squared_error
      40878.3006
556 Epoch 262/1000
     - 1s - loss: 37582.4151 - mean squared error: 37582.4151 - val loss: 44558.7338 - val mean squared error
      44558.7338
558 Epoch 263/1000
     - 1s - Loss: 37889.9745 - mean_squared_error: 37889.9745 - val_Loss: 48852.2301 - val_mean_squared_error
559
     48852.2301
560 Epoch 264/1000
      - 1s - loss: 38606.7034 - mean_squared_error: 38606.7034 - val_loss: 54467.3374 - val_mean_squared_error
562 Epoch 265/1000
     - 1s - loss: 38245.5257 - mean_squared_error: 38245.5257 - val_loss: 53376.1915 - val_mean_squared_error
563
      53376. 1915
564 Epoch 266/1000
     - 1s - loss: 37562.2902 - mean_squared_error: 37562.2902 - val_loss: 46598.7942 - val_mean_squared_error
      46598.7942
566 Epoch 267/1000
     - 1s - loss: 36952.7909 - mean_squared_error: 36952.7909 - val_loss: 41804.0531 - val_mean_squared_error
     41804.0531
568 Epoch 268/1000
     - 1s - loss: 37119.3809 - mean_squared_error: 37119.3809 - val_loss: 40887.9421 - val_mean_squared_error
     40887.9421
570 Epoch 269/1000
     - 1s - loss: 37173.8549 - mean_squared_error: 37173.8549 - val_loss: 41451.0629 - val_mean_squared_error
      41451.0629
572 Epoch 270/1000
     - 1s - loss: 37289.3465 - mean_squared_error: 37289.3465 - val_loss: 42202.4546 - val_mean_squared_error
      42202.4546
574 Epoch 271/1000
     - 1s - loss: 38466.8798 - mean_squared_error: 38466.8798 - val_loss: 52208.7347 - val_mean_squared_error
      52208.7347
576 Epoch 272/1000
577 - 1s - loss: 38205.9702 - mean_squared_error: 38205.9702 - val_loss: 53790.0106 - val_mean_squared_error
```

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File - run (1)
     53790.0106
578 Epoch 273/1000
     - 1s - loss: 37968.5341 - mean_squared_error: 37968.5341 - val_loss: 50758.9772 - val_mean_squared_error
      50758.9772
580 Epoch 274/1000
     - 1s - loss: 37476.8047 - mean_squared_error: 37476.8047 - val_loss: 48749.6615 - val_mean_squared_error
      48749, 6615
582 Epoch 275/1000
     - 1s - loss: 37416.6342 - mean_squared_error: 37416.6342 - val_loss: 47982.7019 - val_mean_squared_error
583
      47982.7019
584 Epoch 276/1000
     - 1s - loss: 37426.2467 - mean_squared_error: 37426.2467 - val_loss: 47835.1833 - val_mean_squared_error
586 Epoch 277/1000
     - 1s - loss: 37439.3311 - mean_squared_error: 37439.3311 - val_loss: 48067.0626 - val_mean_squared_error
      48067.0626
588 Epoch 278/1000
     - 1s - loss: 37453.7637 - mean_squared_error: 37453.7637 - val_loss: 48300.3959 - val_mean_squared_error
     48300.3959
590 Epoch 279/1000
     - 1s - loss: 37461.6912 - mean_squared_error: 37461.6912 - val_loss: 48461.0304 - val_mean_squared_error
      48461.0304
592 Epoch 280/1000
     - 1s - Loss: 37374.6188 - mean_squared_error: 37374.6188 - val_Loss: 47675.8696 - val_mean_squared_error
      47675.8696
594 Epoch 281/1000
595
     - 1s - loss: 37853.6685 - mean_squared_error: 37853.6685 - val_loss: 52260.9999 - val_mean_squared_error
      52260.9999
596 Epoch 282/1000
     - 1s - Loss: 37494.3829 - mean squared error: 37494.3829 - val loss: 50730.6332 - val mean squared error
      50730.6332
598 Epoch 283/1000
     - 1s - loss: 37408.8286 - mean_squared_error: 37408.8286 - val_loss: 49505.7784 - val_mean_squared_error
      49505.7784
600 Epoch 284/1000
     - 1s - loss: 37442.5548 - mean_squared_error: 37442.5548 - val_loss: 49516.5828 - val_mean_squared_error
601
      49516. 5828
602 Epoch 285/1000
     - 1s - loss: 37444.3076 - mean_squared_error: 37444.3076 - val_loss: 49464.1683 - val_mean_squared_error
      49464. 1683
604 Epoch 286/1000
     - 1s - loss: 37384.9402 - mean_squared_error: 37384.9402 - val_loss: 49529.724<u>9 - val_mean_squared_error</u>
605
      49529.7249
606 Epoch 287/1000
     - 1s - loss: 37388.3616 - mean_squared_error: 37388.3616 - val_loss: 49352.9897 - val_mean_squared_error
608 Epoch 288/1000
     - 1s - loss: 37339.8662 - mean_squared_error: 37339.8662 - val_loss: 49423.8951 - val_mean_squared_error
     49423.8951
610 Epoch 289/1000
     - 1s - loss: 37390.1800 - mean_squared_error: 37390.1800 - val_loss: 48640.6562 - val_mean_squared_error
     48640.6562
612 Epoch 290/1000
     - 1s - loss: 37363.3582 - mean_squared_error: 37363.3582 - val_loss: 47547.6802 - val_mean_squared_error
      47547.6802
614 Epoch 291/1000
615 - 1s - Loss: 37351.0405 - mean_squared_error: 37351.0405 - val_Loss: 46974.0105 - val_mean_squared_error
     46974.0105
616 Epoch 292/1000
617 - 1s - Loss: 37301.0473 - mean_squared_error: 37301.0473 - val_Loss: 47109.1752 - val_mean_squared_error
     47109. 1752
```

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File - run (1)
618 Epoch 293/1000
     - 1s - Ioss: 37336.7985 - mean_squared_error: 37336.7985 - val_loss: 47102.7448 - val_mean_squared_error
     47102.7448
620 Epoch 294/1000
     - 1s - Loss: 37279.6722 - mean_squared_error: 37279.6722 - val_Loss: 48158.9513 - val_mean_squared_error
      48158. 9513
622 Epoch 295/1000
623
     - 1s - loss: 37347.3219 - mean_squared_error: 37347.3219 - val_loss: 48714.0969 - val_mean_squared_error
      48714.0969
624 Epoch 296/1000
     - 1s - loss: 37259.2942 - mean_squared_error: 37259.2942 - val_loss: 47814.0378 - val_mean_squared_error
625
      47814.0378
626 Epoch 297/1000
     - 1s - loss: 37490.7643 - mean_squared_error: 37490.7643 - val_loss: 52939.5039 - val_mean_squared_error
      52939.5039
628 Epoch 298/1000
     - 1s - loss: 37385.7386 - mean_squared_error: 37385.7386 - val_loss: 50534.0551 - val_mean_squared_error
      50534.0551
630 Epoch 299/1000
     - 1s - loss: 37372.8123 - mean_squared_error: 37372.8123 - val_loss: 49807.2058 - val_mean_squared_error
632 Epoch 300/1000
     - 1s - loss: 37309.7315 - mean_squared_error: 37309.7315 - val_loss: 49531.7400 - val_mean_squared_error
      49531.7400
634 Epoch 301/1000
     - 1s - Loss: 37312.2763 - mean_squared_error: 37312.2763 - val_Loss: 49035.4829 - val_mean_squared_error
      49035.4829
636 Epoch 302/1000
     - 1s - loss: 37289.2348 - mean_squared_error: 37289.2348 - val_loss: 48593.3049 - val_mean_squared_error
      48593.3049
638 Epoch 303/1000
     - 1s - loss: 37270.6980 - mean_squared_error: 37270.6980 - val_loss: 48498.2176 - val_mean_squared_error
     48498. 2176
640 Epoch 304/1000
641
     - 1s - loss: 37268.2411 - mean_squared_error: 37268.2411 - val_loss: 48506.2029 - val_mean_squared_error
      48506. 2029
642 Epoch 305/1000
     - 1s - loss: 37261.4582 - mean_squared_error: 37261.4582 - val_loss: 48978.1421 - val_mean_squared_error
      48978. 1421
644 Epoch 306/1000
645
     - 1s - loss: 37326.0660 - mean_squared_error: 37326.0660 - val_loss: 49561.3783 - val_mean_squared_error
     49561. 3783
646 Epoch 307/1000
     - 1s - loss: 37306.6198 - mean_squared_error: 37306.6198 - val_loss: 50320.7325 - val_mean_squared_error
647
      50320.7325
648 Epoch 308/1000
     - 1s - loss: 37291.6470 - mean squared error: 37291.6470 - val loss: 50605.7886 - val mean squared error
      50605.7886
650 Epoch 309/1000
     - 1s - loss: 37299.6891 - mean_squared_error: 37299.6891 - val_loss: 50615.5362 - val_mean_squared_error
      50615.5362
652 Epoch 310/1000
     - 1s - loss: 37321.7046 - mean_squared_error: 37321.7046 - val_loss: 50783.9508 - val_mean_squared_error
      50783.9508
654 Epoch 311/1000
     - 1s - loss: 37334.5018 - mean_squared_error: 37334.5018 - val_loss: 50599.4547 - val_mean_squared_error
      50599. 4547
656 Epoch 312/1000
     - 1s - loss: 37288.2378 - mean_squared_error: 37288.2378 - val_loss: 50514.4994 - val_mean_squared_error
     50514.4994
658 Epoch 313/1000
```

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File - run (1)
      - 1s - Loss: 37280.3487 - mean_squared_error: 37280.3487 - val_Loss: 50314.4842 - val_mean_squared_error
      50314.4842
660 Epoch 314/1000
     - 1s - Loss: 37261.5189 - mean_squared_error: 37261.5189 - val_Loss: 50166.6805 - val_mean_squared_error
661
      50166.6805
662 Epoch 315/1000
663
     - 1s - loss: 37249.6361 - mean_squared_error: 37249.6361 - val_loss: 50037.7700 - val_mean_squared_error
      50037.7700
664 Epoch 316/1000
     - 1s - loss: 37211.0232 - mean_squared_error: 37211.0232 - val_loss: 49677.8553 - val_mean_squared_error
665
      49677.8553
666 Epoch 317/1000
     - 1s - loss: 37204.2888 - mean_squared_error: 37204.2888 - val_loss: 49520.9657 - val_mean_squared_error
      49520. 9657
668 Epoch 318/1000
     - 1s - loss: 37202.9368 - mean_squared_error: 37202.9368 - val_loss: 49508.6230 - val_mean_squared_error
      49508.6230
670 Epoch 319/1000
     - 1s - loss: 37205.9364 - mean_squared_error: 37205.9364 - val_loss: 49510.6603 - val_mean_squared_error
      49510.6603
672 Epoch 320/1000
     - 1s - loss: 37208.6543 - mean_squared_error: 37208.6543 - val_loss: 49513.8823 - val_mean_squared_error
      49513.8823
674 Epoch 321/1000
     - 1s - Loss: 37210.6479 - mean_squared_error: 37210.6479 - val_Loss: 49509.0705 - val_mean_squared_error
      49509.0705
676 Epoch 322/1000
     - 1s - Loss: 37221.1837 - mean_squared_error: 37221.1837 - val_loss: 49451.5904 - val_mean_squared_error
      49451.5904
678 Epoch 323/1000
     - 1s - Loss: 37222.5403 - mean squared error: 37222.5403 - val loss: 49451.6915 - val mean squared error
679
      49451.6915
680 Epoch 324/1000
     - 1s - loss: 37228.7410 - mean_squared_error: 37228.7410 - val_loss: 49428.5289 - val_mean_squared_error
681
      49428. 5289
682 Epoch 325/1000
     - 1s - Loss: 37231.8433 - mean_squared_error: 37231.8433 - val_Loss: 49403.1510 - val_mean_squared_error
684 Epoch 326/1000
     - 1s - Loss: 37226.7644 - mean_squared_error: 37226.7644 - val_Loss: 49324.9717 - val_mean_squared_error
685
      49324.9717
686 Epoch 327/1000
     - 1s - loss: 37227.8531 - mean_squared_error: 37227.8531 - val_loss: 49277.1967 - val_mean_squared_error
687
      49277. 1967
688 Epoch 328/1000
     - 1s - loss: 37230.2131 - mean_squared_error: 37230.2131 - val_loss: 49260.8313 - val_mean_squared_error
      49260.8313
690 Epoch 329/1000
     - 1s - loss: 37237.2565 - mean_squared_error: 37237.2565 - val_loss: 49278.9922 - val_mean_squared_error
      49278. 9922
692 Epoch 330/1000
     - 1s - loss: 37237.6881 - mean_squared_error: 37237.6881 - val_loss: 49238.5303 - val_mean_squared_error
693
      49238.5303
694 Epoch 331/1000
     - 1s - Loss: 37236.7915 - mean_squared_error: 37236.7915 - val_Loss: 49173.7795 - val_mean_squared_error
      49173.7795
696 Epoch 332/1000
     - 1s - loss: 37235.4547 - mean_squared_error: 37235.4547 - val_loss: 49109.2646 - val_mean_squared_error
      49109. 2646
698 Epoch 333/1000
699 - 1s - Loss: 37234.4365 - mean_squared_error: 37234.4365 - val_Loss: 49046.7858 - val_mean_squared_error
```

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File - run (1)
     49046. 7858
700 Epoch 334/1000
     - 1s - loss: 37233.7329 - mean_squared_error: 37233.7329 - val_loss: 48987.4728 - val_mean_squared_error
701
      48987.4728
702 Epoch 335/1000
     - 1s - loss: 37233.3467 - mean_squared_error: 37233.3467 - val_loss: 48931.4547 - val_mean_squared_error
      48931. 4547
704 Epoch 336/1000
     - 1s - loss: 37234.1271 - mean_squared_error: 37234.1271 - val_loss: 49142.6534 - val_mean_squared_error
705
     49142.6534
706 Epoch 337/1000
707
     - 1s - loss: 37243.3912 - mean_squared_error: 37243.3912 - val_loss: 49101.5944 - val_mean_squared_error
708 Epoch 338/1000
     - 1s - loss: 37241.6524 - mean_squared_error: 37241.6524 - val_loss: 49001.4877 - val_mean_squared_error
      49001.4877
710 Epoch 339/1000
     - 1s - Loss: 37239.5149 - mean_squared_error: 37239.5149 - val_Loss: 48921.7638 - val_mean_squared_error
      48921.7638
712 Epoch 340/1000
     - 1s - loss: 37238.7607 - mean_squared_error: 37238.7607 - val_loss: 48856.7716 - val_mean_squared_error
      48856.7716
714 Epoch 341/1000
     - 1s - loss: 37238.8399 - mean_squared_error: 37238.8399 - val_loss: 48801.2791 - val_mean_squared_error
      48801. 2791
716 Epoch 342/1000
     - 1s - Loss: 37239.3531 - mean_squared_error: 37239.3531 - val_Loss: 48750.1309 - val_mean_squared_error
      48750. 1309
718 Epoch 343/1000
     - 1s - loss: 37240.0190 - mean squared error: 37240.0190 - val loss: 48700.4289 - val mean squared error
      48700. 4289
720 Epoch 344/1000
     - 1s - loss: 37240.2906 - mean_squared_error: 37240.2906 - val_loss: 48650.8309 - val_mean_squared_error
      48650.8309
722 Epoch 345/1000
     - 1s - loss: 37240.9398 - mean_squared_error: 37240.9398 - val_loss: 48600.1317 - val_mean_squared_error
723
724 Epoch 346/1000
     - 1s - loss: 37242.9247 - mean_squared_error: 37242.9247 - val_loss: 48629.0570 - val_mean_squared_error
      48629.0570
726 Epoch 347/1000
     - 1s - loss: 37234.6483 - mean_squared_error: 37234.6483 - val_loss: 48459.932<u>6 - val_mean_squared_error</u>
727
      48459. 9326
728 Epoch 348/1000
     - 1s - loss: 37233.5232 - mean_squared_error: 37233.5232 - val_loss: 48496.5262 - val_mean_squared_error
730 Epoch 349/1000
     - 1s - loss: 37237.3277 - mean_squared_error: 37237.3277 - val_loss: 48535.0926 - val_mean_squared_error
     48535.0926
732 Epoch 350/1000
     - 1s - loss: 37146.1703 - mean_squared_error: 37146.1703 - val_loss: 48541.5902 - val_mean_squared_error
      48541. 5902
734 Epoch 351/1000
     - 1s - loss: 37233.3771 - mean_squared_error: 37233.3771 - val_loss: 49494.3006 - val_mean_squared_error
      49494.3006
736 Epoch 352/1000
     - 1s - loss: 37282.8979 - mean_squared_error: 37282.8979 - val_loss: 49297.8948 - val_mean_squared_error
     49297.8948
738 Epoch 353/1000
739 - 1s - Loss: 37182.5370 - mean_squared_error: 37182.5370 - val_Loss: 48770.2593 - val_mean_squared_error
     48770. 2593
```

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File - run (1)
740 Epoch 354/1000
     - 1s - loss: 37177.2579 - mean_squared_error: 37177.2579 - val_loss: 48514.1104 - val_mean_squared_error
741
      48514.1104
742 Epoch 355/1000
     - 1s - loss: 37242.0632 - mean_squared_error: 37242.0632 - val_loss: 49338.4683 - val_mean_squared_error
743
      49338.4683
744 Epoch 356/1000
     - 1s - loss: 37279.7395 - mean_squared_error: 37279.7395 - val_loss: 48997.289<u>7 - val_mean_squared_error</u>
745
     48997. 2897
746 Epoch 357/1000
     - 1s - loss: 37181.1332 - mean_squared_error: 37181.1332 - val_loss: 48382.5882 - val_mean_squared_error
747
      48382.5882
748 Epoch 358/1000
     - 1s - Loss: 37126.6855 - mean_squared_error: 37126.6855 - val_Loss: 47131.4468 - val_mean_squared_error
     47131. 4468
750 Epoch 359/1000
     - 1s - loss: 37110.6072 - mean_squared_error: 37110.6072 - val_loss: 46774.3343 - val_mean_squared_error
      46774.3343
752 Epoch 360/1000
     - 1s - Loss: 37108.8426 - mean_squared_error: 37108.8426 - val_Loss: 47022.7715 - val_mean_squared_error
754 Epoch 361/1000
     - 1s - Loss: 37125.6826 - mean_squared_error: 37125.6826 - val_Loss: 47345.3146 - val_mean_squared_error
      47345.3146
756 Epoch 362/1000
     - 1s - loss: 37144.1054 - mean_squared_error: 37144.1054 - val_loss: 47634.1895 - val_mean_squared_error
     47634. 1895
758 Epoch 363/1000
     - 1s - loss: 37231.0165 - mean_squared_error: 37231.0165 - val_loss: 49140.6124 - val_mean_squared_error
      49140.6124
760 Epoch 364/1000
     - 1s - Loss: 37295.4878 - mean_squared_error: 37295.4878 - val_Loss: 49190.6614 - val_mean_squared_error
     49190.6614
762 Epoch 365/1000
     - 1s - loss: 37258.7704 - mean_squared_error: 37258.7704 - val_loss: 49518.3489 - val_mean_squared_error
763
      49518.3489
764 Epoch 366/1000
     - 1s - loss: 37275.9464 - mean_squared_error: 37275.9464 - val_loss: 50068.5944 - val_mean_squared_error
      50068.5944
766 Epoch 367/1000
     - 1s - loss: 37285.0226 - mean_squared_error: 37285.0226 - val_loss: 49991.3045 - val_mean_squared_error
767
     49991. 3045
768 Epoch 368/1000
     - 1s - loss: 37274.6012 - mean_squared_error: 37274.6012 - val_loss: 49831.5623 - val_mean_squared_error
769
      49831.5623
770 Epoch 369/1000
     - 1s - loss: 37219.0820 - mean squared error: 37219.0820 - val loss: 48322.7842 - val mean squared error
     48322.7842
772 Epoch 370/1000
     - 1s - Loss: 37141.8780 - mean_squared_error: 37141.8780 - val_loss: 48116.6419 - val_mean_squared_error
773
     48116.6419
774 Epoch 371/1000
     - 1s - loss: 37289.2401 - mean_squared_error: 37289.2401 - val_loss: 47446.2717 - val_mean_squared_error
      47446. 2717
776 Epoch 372/1000
     - 1s - loss: 37250.4739 - mean_squared_error: 37250.4739 - val_loss: 47882.7391 - val_mean_squared_error
      47882.7391
778 Epoch 373/1000
     - 1s - loss: 37320.0846 - mean_squared_error: 37320.0846 - val_loss: 47480.5320 - val_mean_squared_error
     47480.5320
780 Epoch 374/1000
```

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File - run (1)
      - 1s - Loss: 37289.1352 - mean_squared_error: 37289.1352 - val_Loss: 47917.1576 - val_mean_squared_error
      47917. 1576
782 Epoch 375/1000
783
     - 1s - loss: 37354.4244 - mean_squared_error: 37354.4244 - val_loss: 47543.8869 - val_mean_squared_error
      47543.8869
784 Epoch 376/1000
785
     - 1s - Loss: 37317.9299 - mean_squared_error: 37317.9299 - val_Loss: 47868.3535 - val_mean_squared_error
      47868.3535
786 Epoch 377/1000
     - 1s - loss: 37334.0998 - mean_squared_error: 37334.0998 - val_loss: 48544.9555 - val_mean_squared_error
787
      48544.9555
788 Epoch 378/1000
     - 1s - loss: 37444.3206 - mean_squared_error: 37444.3206 - val_loss: 48832.3645 - val_mean_squared_error
      48832.3645
790 Epoch 379/1000
     - 1s - loss: 37473.9676 - mean_squared_error: 37473.9676 - val_loss: 48853.1101 - val_mean_squared_error
      48853. 1101
792 Epoch 380/1000
     - 1s - loss: 37399.4198 - mean_squared_error: 37399.4198 - val_loss: 48543.5273 - val_mean_squared_error
793
      48543.5273
794 Epoch 381/1000
     - 1s - loss: 37404.6632 - mean_squared_error: 37404.6632 - val_loss: 48243.1862 - val_mean_squared_error
      48243. 1862
796 Epoch 382/1000
     - 1s - loss: 37408.0598 - mean_squared_error: 37408.0598 - val_loss: 48149.4638 - val_mean_squared_error
      48149. 4638
798 Epoch 383/1000
     - 1s - loss: 37416.8103 - mean_squared_error: 37416.8103 - val_loss: 48094.8893 - val_mean_squared_error
      48094.8893
800 Epoch 384/1000
     - 1s - Loss: 37425.1344 - mean squared error: 37425.1344 - val loss: 48053.2104 - val mean squared error
      48053. 2104
802 Epoch 385/1000
     - 1s - Loss: 37422.7753 - mean_squared_error: 37422.7753 - val_Loss: 47172.2103 - val_mean_squared_error
803
      47172. 2103
804 Epoch 386/1000
805
     - 1s - loss: 37427.3342 - mean_squared_error: 37427.3342 - val_loss: 46954.2183 - val_mean_squared_error
      46954. 2183
806 Epoch 387/1000
     - 1s - loss: 37481.7910 - mean_squared_error: 37481.7910 - val_loss: 48362.6278 - val_mean_squared_error
807
      48362.6278
808 Epoch 388/1000
     - 1s - loss: 37531.6991 - mean_squared_error: 37531.6991 - val_loss: 48817.6405 - val_mean_squared_error
809
      48817.6405
810 Epoch 389/1000
     - 1s - loss: 37537.6430 - mean_squared_error: 37537.6430 - val_loss: 48824.8816 - val_mean_squared_error
      48824.8816
812 Epoch 390/1000
     - 1s - loss: 37532.0749 - mean_squared_error: 37532.0749 - val_loss: 48597.9096 - val_mean_squared_error
      48597. 9096
814 Epoch 391/1000
     - 1s - loss: 37523.1706 - mean_squared_error: 37523.1706 - val_loss: 48395.6327 - val_mean_squared_error
      48395.6327
816 Epoch 392/1000
     - 1s - loss: 37507.9106 - mean_squared_error: 37507.9106 - val_loss: 48285.4623 - val_mean_squared_error
      48285.4623
818 Epoch 393/1000
     - 1s - Loss: 37509.9831 - mean_squared_error: 37509.9831 - val_Loss: 47803.3706 - val_mean_squared_error
      47803.3706
820 Epoch 394/1000
821 - 1s - Loss: 37378.4288 - mean_squared_error: 37378.4288 - val_Loss: 46099.0038 - val_mean_squared_error
```

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File - run (1)
     46099.0038
822 Epoch 395/1000
     - 1s - loss: 37390.8060 - mean_squared_error: 37390.8060 - val_loss: 46031.6390 - val_mean_squared_error
      46031.6390
824 Epoch 396/1000
     - 1s - loss: 37402.1810 - mean_squared_error: 37402.1810 - val_loss: 46542.5413 - val_mean_squared_error
      46542, 5413
826 Epoch 397/1000
     - 1s - loss: 37428.8923 - mean_squared_error: 37428.8923 - val_loss: 46919.2739 - val_mean_squared_error
827
      46919. 2739
828 Epoch 398/1000
     - 1s - loss: 37454.6679 - mean_squared_error: 37454.6679 - val_loss: 47043.8148 - val_mean_squared_error
830 Epoch 399/1000
     - 1s - loss: 37464.0566 - mean_squared_error: 37464.0566 - val_loss: 47056.3674 - val_mean_squared_error
      47056.3674
832 Epoch 400/1000
     - 1s - loss: 37468.3383 - mean_squared_error: 37468.3383 - val_loss: 47065.7816 - val_mean_squared_error
      47065.7816
834 Epoch 401/1000
     - 1s - loss: 37471.6517 - mean_squared_error: 37471.6517 - val_loss: 47045.9321 - val_mean_squared_error
      47045. 9321
836 Epoch 402/1000
     - 1s - loss: 37473.6742 - mean_squared_error: 37473.6742 - val_loss: 47006.0222 - val_mean_squared_error
      47006.0222
838 Epoch 403/1000
839
     - 1s - loss: 37474.8205 - mean_squared_error: 37474.8205 - val_loss: 46954.9858 - val_mean_squared_error
      46954.9858
840 Epoch 404/1000
     - 1s - Loss: 37489.2832 - mean squared error: 37489.2832 - val Loss: 46867.2500 - val mean squared error
      46867.2500
842 Epoch 405/1000
     - 1s - loss: 37469.3266 - mean_squared_error: 37469.3266 - val_loss: 47053.6692 - val_mean_squared_error
843
      47053.6692
844 Epoch 406/1000
     - 1s - loss: 37498.7154 - mean_squared_error: 37498.7154 - val_loss: 47091.9968 - val_mean_squared_error
845
      47091.9968
846 Epoch 407/1000
     - 1s - loss: 37457.0212 - mean_squared_error: 37457.0212 - val_loss: 46243.1070 - val_mean_squared_error
      46243, 1070
848 Epoch 408/1000
     - 1s - loss: 37439.2995 - mean_squared_error: 37439.2995 - val_loss: 46370.322<u>4 - val_mean_squared_error</u>
849
     46370.3224
850 Epoch 409/1000
     - 1s - loss: 37451.1874 - mean_squared_error: 37451.1874 - val_loss: 46469.0425 - val_mean_squared_error
      46469.0425
852 Epoch 410/1000
     - 1s - loss: 37472.9536 - mean_squared_error: 37472.9536 - val_loss: 46390.9011 - val_mean_squared_error
     46390. 9011
854 Epoch 411/1000
     - 1s - Loss: 37451.5269 - mean_squared_error: 37451.5269 - val_loss: 46705.7374 - val_mean_squared_error
     46705.7374
856 Epoch 412/1000
     - 1s - loss: 37528.3003 - mean_squared_error: 37528.3003 - val_loss: 47031.3932 - val_mean_squared_error
      47031.3932
858 Epoch 413/1000
     - 1s - loss: 37450.7402 - mean_squared_error: 37450.7402 - val_loss: 45647.2544 - val_mean_squared_error
      45647. 2544
860 Epoch 414/1000
861 - 1s - Loss: 37416.7028 - mean_squared_error: 37416.7028 - val_Loss: 45776.9411 - val_mean_squared_error
     45776. 9411
```

```
File - run (1)
862 Epoch 415/1000
     - 1s - Ioss: 37445.8104 - mean_squared_error: 37445.8104 - val_loss: 45948.8105 - val_mean_squared_error
      45948.8105
864 Epoch 416/1000
     - 1s - Loss: 37436.6023 - mean_squared_error: 37436.6023 - val_Loss: 46328.8342 - val_mean_squared_error
865
      46328.8342
866 Epoch 417/1000
     - 1s - loss: 37492.0974 - mean_squared_error: 37492.0974 - val_loss: 46548.3380 - val_mean_squared_error
867
     46548. 3380
868 Epoch 418/1000
     - 1s - loss: 37440.7641 - mean_squared_error: 37440.7641 - val_loss: 45587.0177 - val_mean_squared_error
869
      45587.0177
870 Epoch 419/1000
     - 1s - loss: 37434.9830 - mean_squared_error: 37434.9830 - val_loss: 45736.2701 - val_mean_squared_error
      45736.2701
872 Epoch 420/1000
     - 1s - loss: 37427.8156 - mean_squared_error: 37427.8156 - val_loss: 46104.7555 - val_mean_squared_error
      46104.7555
874 Epoch 421/1000
     - 1s - loss: 37483.5263 - mean_squared_error: 37483.5263 - val_loss: 46333.7342 - val_mean_squared_error
      46333.7342
876 Epoch 422/1000
     - 1s - loss: 37435.2932 - mean_squared_error: 37435.2932 - val_loss: 45386.1680 - val_mean_squared_error
      45386.1680
878 Epoch 423/1000
     - 1s - loss: 37430.5655 - mean_squared_error: 37430.5655 - val_loss: 45543.5134 - val_mean_squared_error
      45543.5134
880 Epoch 424/1000
     - 1s - loss: 37452.5470 - mean_squared_error: 37452.5470 - val_loss: 46048.5405 - val_mean_squared_error
      46048.5405
882 Epoch 425/1000
     - 1s - loss: 37476.7508 - mean_squared_error: 37476.7508 - val_loss: 45894.1445 - val_mean_squared_error
     45894.1445
884 Epoch 426/1000
     - 1s - loss: 37422.1321 - mean_squared_error: 37422.1321 - val_loss: 45045.2070 - val_mean_squared_error
885
      45045. 2070
886 Epoch 427/1000
      - 1s - Loss: 37471.3099 - mean_squared_error: 37471.3099 - val_Loss: 45224.147<u>3 - val_mean_squared_error</u>
      45224.1473
888 Epoch 428/1000
     - 1s - loss: 37491.0671 - mean_squared_error: 37491.0671 - val_loss: 45303.5975 - val_mean_squared_error
889
      45303.5975
890 Epoch 429/1000
     - 1s - loss: 37467.9490 - mean_squared_error: 37467.9490 - val_loss: 45622.6473 - val_mean_squared_error
      45622.6473
892 Epoch 430/1000
     - 1s - loss: 37460.0187 - mean squared error: 37460.0187 - val loss: 45459.4355 - val mean squared error
      45459, 4355
894 Epoch 431/1000
     - 1s - Loss: 37443.6131 - mean_squared_error: 37443.6131 - val_Loss: 45459.9264 - val_mean_squared_error
      45459. 9264
896 Epoch 432/1000
     - 1s - loss: 37425.1481 - mean_squared_error: 37425.1481 - val_loss: 45355.8437 - val_mean_squared_error
      45355.8437
898 Epoch 433/1000
     - 1s - loss: 37478.1819 - mean_squared_error: 37478.1819 - val_loss: 44861.0270 - val_mean_squared_error
      44861.0270
900 Epoch 434/1000
     - 1s - loss: 37423.2270 - mean_squared_error: 37423.2270 - val_loss: 45607.0426 - val_mean_squared_error
     45607.0426
902 Epoch 435/1000
```

```
File - run (1)
      - 1s - Loss: 37507.2602 - mean_squared_error: 37507.2602 - val_Loss: 46138.1997 - val_mean_squared_error
      46138. 1997
904 Epoch 436/1000
     - 1s - loss: 37497.5648 - mean_squared_error: 37497.5648 - val_loss: 44874.2241 - val_mean_squared_error
905
      44874. 2241
906 Epoch 437/1000
907
     - 1s - loss: 37445.6520 - mean_squared_error: 37445.6520 - val_loss: 45231.0275 - val_mean_squared_error
      45231.0275
908 Epoch 438/1000
     - 1s - loss: 37537.0875 - mean_squared_error: 37537.0875 - val_loss: 45441.7760 - val_mean_squared_error
909
      45441.7760
910 Epoch 439/1000
     - 1s - loss: 37466.9037 - mean_squared_error: 37466.9037 - val_loss: 45267.6013 - val_mean_squared_error
      45267.6013
912 Epoch 440/1000
     - 1s - Loss: 37543.3253 - mean_squared_error: 37543.3253 - val_Loss: 45617.5859 - val_mean_squared_error
      45617. 5859
914 Epoch 441/1000
     - 1s - loss: 37480.3244 - mean_squared_error: 37480.3244 - val_loss: 45273.6033 - val_mean_squared_error
915
      45273.6033
916 Epoch 442/1000
     - 1s - loss: 37548.3523 - mean_squared_error: 37548.3523 - val_loss: 45477.1370 - val_mean_squared_error
      45477. 1370
918 Epoch 443/1000
     - 1s - Ioss: 37547.8538 - mean_squared_error: 37547.8538 - val_loss: 45051.3778 - val_mean_squared_error
      45051.3778
920 Epoch 444/1000
     - 1s - loss: 37549.9514 - mean_squared_error: 37549.9514 - val_loss: 44610.5053 - val_mean_squared_error
      44610.5053
922 Epoch 445/1000
     - 1s - loss: 37523.2592 - mean squared error: 37523.2592 - val loss: 44544.3470 - val mean squared error
     44544.3470
924 Epoch 446/1000
     - 1s - Loss: 37535.2329 - mean_squared_error: 37535.2329 - val_Loss: 44227.9605 - val_mean_squared_error
925
      44227.9605
926 Epoch 447/1000
     - 1s - loss: 37445.7015 - mean_squared_error: 37445.7015 - val_loss: 44619.7484 - val_mean_squared_error
      44619.7484
928 Epoch 448/1000
     - 1s - loss: 37536.0582 - mean_squared_error: 37536.0582 - val_loss: 45090.0252 - val_mean_squared_error
929
      45090.0252
930 Epoch 449/1000
     - 1s - loss: 37563.2146 - mean_squared_error: 37563.2146 - val_loss: 44222.0611 - val_mean_squared_error
931
      44222.0611
932 Epoch 450/1000
     - 1s - loss: 37536.4884 - mean_squared_error: 37536.4884 - val_loss: 43963.9533 - val_mean_squared_error
     43963. 9533
934 Epoch 451/1000
     - 1s - loss: 37527.5760 - mean_squared_error: 37527.5760 - val_loss: 43843.1438 - val_mean_squared_error
      43843. 1438
936 Epoch 452/1000
     - 1s - loss: 37522.4176 - mean_squared_error: 37522.4176 - val_loss: 43798.5433 - val_mean_squared_error
937
      43798.5433
938 Epoch 453/1000
     - 1s - Loss: 37519.6208 - mean_squared_error: 37519.6208 - val_Loss: 43794.5494 - val_mean_squared_error
      43794.5494
940 Epoch 454/1000
     - 1s - Loss: 37518.2885 - mean_squared_error: 37518.2885 - val_loss: 43811.8936 - val_mean_squared_error
      43811.8936
942 Epoch 455/1000
943 - 1s - Loss: 37517.9563 - mean_squared_error: 37517.9563 - val_Loss: 43837.3092 - val_mean_squared_error
```

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File - run (1)
 943
      43837.3092
 944 Epoch 456/1000
 945 - 1s - loss: 37518.2111 - mean_squared_error: 37518.2111 - val_loss: 43862.8205 -
     val_mean_squared_error: 43862.8205
 946 Epoch 457/1000
      - 1s - loss: 37518.7893 - mean_squared_error: 37518.7893 - val_loss: 43883.6315 -
     val_mean_squared_error: 43883.6315
 948 Epoch 458/1000
      - 1s - loss: 37428.4374 - mean_squared_error: 37428.4374 - val_loss: 45192.9351 -
     val_mean_squared_error: 45192.9351
 950 Epoch 459/1000
      - 1s - loss: 37552.1427 - mean_squared_error: 37552.1427 - val_loss: 45253.0560 -
     val_mean_squared_error: 45253.0560
 952 Epoch 460/1000
      - 1s - loss: 37580.6907 - mean_squared_error: 37580.6907 - val_loss: 43944.6249 -
     val_mean_squared_error: 43944.6249
 954 Epoch 461/1000
      - 1s - loss: 37539.5004 - mean_squared_error: 37539.5004 - val_loss: 43635.3944 -
      val_mean_squared_error: 43635.3944
 956 Epoch 462/1000
      - 1s - loss: 37530.3415 - mean_squared_error: 37530.3415 - val_loss: 43469.6092 -
      val_mean_squared_error: 43469.6092
 958 Epoch 463/1000
      - 1s - loss: 37524.1820 - mean_squared_error: 37524.1820 - val_loss: 43403.9923 -
     val_mean_squared_error: 43403.9923
 960 Epoch 464/1000
 961 - 1s - Loss: 37520.7819 - mean_squared_error: 37520.7819 - val_Loss: 43390.2149 -
     val_mean_squared_error: 43390.2149
 962 Epoch 465/1000
 963 - 1s - loss: 37518.9891 - mean_squared_error: 37518.9891 - val_loss: 43407.0742 -
     val_mean_squared_error: 43407.0742
 964 Epoch 466/1000
      - 1s - Loss: 37518.3649 - mean_squared_error: 37518.3649 - val_loss: 43438.5245 -
     val_mean_squared_error: 43438.5245
 966 Epoch 467/1000
      - 1s - loss: 37423.8110 - mean_squared_error: 37423.8110 - val_loss: 44761.1051 -
      val_mean_squared_error: 44761.1051
 968 Epoch 468/1000
      - 1s - loss: 37547.5931 - mean_squared_error: 37547.5931 - val_loss: 44753.6783 -
     val_mean_squared_error: 44753.6783
 970 Epoch 469/1000
      - 1s - loss: 37493.9426 - mean_squared_error: 37493.9426 - val_loss: 45406.2113 -
     val_mean_squared_error: 45406.2113
 972 Epoch 470/1000
 973 - 1s - loss: 37574.7009 - mean_squared_error: 37574.7009 - val_loss: 44607.2885 -
     val_mean_squared_error: 44607.2885
 974 Epoch 471/1000
 975 - 1s - loss: 37567.4543 - mean_squared_error: 37567.4543 - val_loss: 43578.4941 -
     val_mean_squared_error: 43578.4941
 976 Epoch 472/1000
      - 1s - loss: 37548.6909 - mean_squared_error: 37548.6909 - val_loss: 43670.4656 -
      val_mean_squared_error: 43670.4656
 978 Epoch 473/1000
      - 1s - loss: 37556.5527 - mean_squared_error: 37556.5527 - val_loss: 43279.8980 -
      val_mean_squared_error: 43279.8980
 980 Epoch 474/1000
 981 - 1s - loss: 37440.3732 - mean_squared_error: 37440.3732 - val_loss: 44465.6354 -
     val_mean_squared_error: 44465.6354
 982 Epoch 475/1000
 983 - 1s - Loss: 37566.1996 - mean_squared_error: 37566.1996 - val_Loss: 43910.3348 -
     val_mean_squared_error: 43910.3348
```

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File - run (1)
 984 Epoch 476/1000
      - 1s - loss: 37588.2869 - mean_squared_error: 37588.2869 - val_loss: 43234.5900 -
      val_mean_squared_error: 43234.5900
 986 Epoch 477/1000
      - 1s - loss: 37456.1827 - mean_squared_error: 37456.1827 - val_loss:
     val_mean_squared_error: 44432.2755
 988 Epoch 478/1000
      - 1s - loss: 37668.9118 - mean_squared_error: 37668.9118 - val_loss: 42601.1065 -
     val_mean_squared_error: 42601.1065
 990 Epoch 479/1000
      - 1s - loss: 37546.3173 - mean_squared_error: 37546.3173 - val_loss: 41949.5148 -
     val_mean_squared_error: 41949.5148
 992 Epoch 480/1000
 993 - 1s - loss: 37416.8306 - mean_squared_error: 37416.8306 - val_loss: 44380.5474 -
     val_mean_squared_error: 44380.5474
 994 Epoch 481/1000
      - 1s - loss: 37676.8073 - mean_squared_error: 37676.8073 - val_loss: 42395.1766 -
     val_mean_squared_error: 42395.1766
 996 Epoch 482/1000
      - 1s - loss: 37546.6421 - mean_squared_error: 37546.6421 - val_loss: 41806.4506 -
      val_mean_squared_error: 41806.4506
 998 Epoch 483/1000
      - 1s - loss: 37416.8580 - mean_squared_error: 37416.8580 - val_loss: 44164.5862 -
     val_mean_squared_error: 44164.5862
1000 Epoch 484/1000
1001 - 1s - loss: 37670.7565 - mean_squared_error: 37670.7565 - val_loss: 42289.9171 -
     val_mean_squared_error: 42289.9171
1002 Epoch 485/1000
1003 - 1s - Loss: 37611.2318 - mean_squared_error: 37611.2318 - val_loss: 45977.3010 -
     val_mean_squared_error: 45977.3010
1004 Epoch 486/1000
1005 - 1s - Loss: 37693.8818 - mean_squared_error: 37693.8818 - val_loss: 42299.2505 -
     val_mean_squared_error: 42299.2505
1006 Epoch 487/1000
      - 1s - loss: 37682.8183 - mean_squared_error: 37682.8183 - val_loss: 40517.1289 -
1007
      val_mean_squared_error: 40517.1289
1008 Epoch 488/1000
      - 1s - loss: 37626.7683 - mean_squared_error: 37626.7683 - val_loss: 40017.5616 -
1009
     val_mean_squared_error: 40017.5616
1010 Epoch 489/1000
      - 1s - loss: 37394.7443 - mean_squared_error: 37394.7443 - val_loss: 40914.0809 -
     val_mean_squared_error: 40914.0809
1012 Epoch 490/1000
1013 - 1s - Loss: 37390.7372 - mean_squared_error: 37390.7372 - val_Loss: 42446.4677 -
     val_mean_squared_error: 42446.4677
1014 Epoch 491/1000
1015 - 1s - loss: 37613.8697 - mean_squared_error: 37613.8697 - val_loss: 42383.8763 -
     val_mean_squared_error: 42383.8763
1016 Epoch 492/1000
1017 - 1s - Loss: 37450.9429 - mean_squared_error: 37450.9429 - val_loss: 42673.7244 -
      val_mean_squared_error: 42673.7244
1018 Epoch 493/1000
      - 1s - Loss: 37623.4474 - mean_squared_error: 37623.4474 - val_loss: 42515.6838 -
1019
      val_mean_squared_error: 42515.6838
1020 Epoch 494/1000
1021 - 1s - Loss: 37658.2773 - mean_squared_error: 37658.2773 - val_Loss: 41203.8674 -
     val_mean_squared_error: 41203.8674
1022 Epoch 495/1000
1023 - 1s - Loss: 37634.9617 - mean_squared_error: 37634.9617 - val_Loss: 40451.5837 -
     val_mean_squared_error: 40451.5837
1024 Epoch 496/1000
```

```
File - run (1)
      - 1s - loss: 37407.8380 - mean_squared_error: 37407.8380 - val_loss: 41489.5592 -
      val_mean_squared_error: 41489.5592
1026 Epoch 497/1000
      - 1s - loss: 37416.7459 - mean_squared_error: 37416.7459 - val_loss: 42941.4500 -
1027
     val_mean_squared_error: 42941.4500
1028 Epoch 498/1000
      - 1s - loss: 37637.6090 - mean_squared_error: 37637.6090 - val_loss: 42709.4799 -
     val_mean_squared_error: 42709.4799
1030 Epoch 499/1000
      - 1s - loss: 37671.1346 - mean_squared_error: 37671.1346 - val_loss: 41626.7191 -
     val_mean_squared_error: 41626.7191
1032 Epoch 500/1000
1033 - 1s - Loss: 37648.1803 - mean_squared_error: 37648.1803 - val_loss: 40786.3002 -
     val mean squared error: 40786.3002
1034 Epoch 501/1000
1035 - 1s - Loss: 37440.2813 - mean_squared_error: 37440.2813 - val_loss: 42554.6958 -
     val_mean_squared_error: 42554.6958
1036 Epoch 502/1000
      - 1s - loss: 37598.3904 - mean_squared_error: 37598.3904 - val_loss: 41783.4951 -
1037
     val_mean_squared_error: 41783.4951
1038 Epoch 503/1000
      - 1s - loss: 37688.9471 - mean_squared_error: 37688.9471 - val_loss: 40462.8799 -
     val_mean_squared_error: 40462.8799
1040 Epoch 504/1000
1041 - 1s - loss: 37429.6114 - mean_squared_error: 37429.6114 - val_loss: 42282.3745 -
     val_mean_squared_error: 42282.3745
1042 Epoch 505/1000
1043 - 1s - Loss: 37644.1617 - mean_squared_error: 37644.1617 - val_Loss: 41109.9227 -
     val_mean_squared_error: 41109.9227
1044 Epoch 506/1000
1045 - 1s - loss: 37669.1982 - mean_squared_error: 37669.1982 - val_loss: 40259.5293 -
     val_mean_squared_error: 40259.5293
1046 Epoch 507/1000
1047 - 1s - loss: 37406.4218 - mean_squared_error: 37406.4218 - val_loss: 42341.0033 -
     val_mean_squared_error: 42341.0033
1048 Epoch 508/1000
      - 1s - loss: 37518.5168 - mean_squared_error: 37518.5168 - val_loss: 42442.1460 -
     val_mean_squared_error: 42442.1460
1050 Epoch 509/1000
      - 1s - loss: 37503.8772 - mean_squared_error: 37503.8772 - val_loss: 42387.1694 -
     val_mean_squared_error: 42387.1694
1052 Epoch 510/1000
1053 - 1s - loss: 37627.0267 - mean_squared_error: 37627.0267 - val_loss: 41281.1370 -
     val_mean_squared_error: 41281.1370
1054 Epoch 511/1000
1055 - 1s - Loss: 37691.6582 - mean_squared_error: 37691.6582 - val_loss: 40045.7438 -
     val mean squared error: 40045.7438
1056 Epoch 512/1000
1057 - 1s - loss: 37630.9796 - mean_squared_error: 37630.9796 - val_loss: 39958.2800 -
     val_mean_squared_error: 39958.2800
1058 Epoch 513/1000
      - 1s - loss: 37612.8137 - mean_squared_error: 37612.8137 - val_loss: 39881.9116 -
1059
      val_mean_squared_error: 39881.9116
1060 Epoch 514/1000
      - 1s - loss: 37594.6311 - mean_squared_error: 37594.6311 - val_loss: 39923.7449 -
     val_mean_squared_error: 39923.7449
1062 Epoch 515/1000
1063 - 1s - loss: 37585.2036 - mean_squared_error: 37585.2036 - val_loss: 40031.1365 -
     val_mean_squared_error: 40031.1365
1064 Epoch 516/1000
```

1065 - 1s - loss: 37567.4424 - mean_squared_error: 37567.4424 - val_loss: 40197.7391 -

```
File - run (1)
1065 val_mean_squared_error: 40197.7391
1066 Epoch 517/1000
      - 1s - loss: 37392.5599 - mean_squared_error: 37392.5599 - val_loss: 42383.5943 -
      val_mean_squared_error: 42383.5943
1068 Epoch 518/1000
      - 1s - loss: 37503.4077 - mean_squared_error: 37503.4077 - val_loss: 43291.0106 -
     val_mean_squared_error: 43291.0106
1070 Epoch 519/1000
      - 1s - loss: 37675.9934 - mean_squared_error: 37675.9934 - val_loss: 41873.9454 -
     val_mean_squared_error: 41873.9454
1072 Epoch 520/1000
1073 - 1s - Loss: 37481.7640 - mean_squared_error: 37481.7640 - val_loss: 42561.0603 -
     val_mean_squared_error: 42561.0603
1074 Epoch 521/1000
1075 - 1s - loss: 37661.0692 - mean_squared_error: 37661.0692 - val_loss: 41750.6701 -
     val_mean_squared_error: 41750.6701
1076 Epoch 522/1000
1077 - 1s - loss: 37605.0384 - mean_squared_error: 37605.0384 - val_loss: 41240.2766 -
      val_mean_squared_error: 41240.2766
1078 Epoch 523/1000
      - 1s - Loss: 37472.9162 - mean_squared_error: 37472.9162 - val_loss: 42125.6533 -
1079
      val_mean_squared_error: 42125.6533
1080 Epoch 524/1000
1081 - 1s - Loss: 37487.7408 - mean_squared_error: 37487.7408 - val_loss: 43009.3913 -
     val_mean_squared_error: 43009.3913
1082 Epoch 525/1000
1083 - 1s - Loss: 37709.1547 - mean_squared_error: 37709.1547 - val_Loss: 41590.8663 -
     val_mean_squared_error: 41590.8663
1084 Epoch 526/1000
1085 - 1s - Loss: 37619.4494 - mean_squared_error: 37619.4494 - val_Loss: 41179.4183 -
     val_mean_squared_error: 41179.4183
1086 Epoch 527/1000
1087 - 1s - Loss: 37598.5721 - mean_squared_error: 37598.5721 - val_Loss: 40942.3707 -
     val_mean_squared_error: 40942.3707
1088 Epoch 528/1000
      - 1s - loss: 37592.4899 - mean_squared_error: 37592.4899 - val_loss: 40778.7009 -
1089
     val_mean_squared_error: 40778.7009
1090 Epoch 529/1000
      - 1s - loss: 37461.3236 - mean_squared_error: 37461.3236 - val_loss: 41823.1121 -
     val_mean_squared_error: 41823.1121
1092 Epoch 530/1000
1093
      - 1s - loss: 37659.3155 - mean_squared_error: 37659.3155 - val_loss: 41393.1817 -
     val_mean_squared_error: 41393.1817
1094 Epoch 531/1000
1095 - 1s - Loss: 37588.1231 - mean_squared_error: 37588.1231 - val_Loss: 41184.1892 -
     val_mean_squared_error: 41184.1892
1096 Epoch 532/1000
1097 - 1s - loss: 37579.8246 - mean_squared_error: 37579.8246 - val_loss: 40708.6200 -
     val_mean_squared_error: 40708.6200
1098 Epoch 533/1000
     val_mean_squared_error: 40726.2211
1100 Epoch 534/1000
      - 1s - Loss: 37561.4938 - mean_squared_error: 37561.4938 - val_loss: 40850.7150 -
     val_mean_squared_error: 40850.7150
1102 Epoch 535/1000
1103 - 1s - Loss: 37559.9036 - mean_squared_error: 37559.9036 - val_loss: 40955.5026 -
     val_mean_squared_error: 40955.5026
1104 Epoch 536/1000
1105 - 1s - Loss: 37558.0864 - mean_squared_error: 37558.0864 - val_loss: 41078.5832 -
     val_mean_squared_error: 41078.<u>5832</u>
```

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File - run (1)
1106 Epoch 537/1000
      - 1s - loss: 37557.5253 - mean_squared_error: 37557.5253 - val_loss: 41209.2158 -
      val_mean_squared_error: 41209.2158
1108 Epoch 538/1000
1109
      - 1s - loss: 37557.6796 - mean_squared_error: 37557.6796 - val_loss:
     val_mean_squared_error: 41344.0829
1110 Epoch 539/1000
1111 - 1s - Loss: 37558.4244 - mean_squared_error: 37558.4244 - val_Loss: 41478.2196 -
     val_mean_squared_error: 41478.2196
1112 Epoch 540/1000
1113 - 1s - loss: 37559.5639 - mean_squared_error: 37559.5639 - val_loss: 41607.9109 -
     val_mean_squared_error: 41607.9109
1114 Epoch 541/1000
1115 - 1s - Loss: 37560.9283 - mean_squared_error: 37560.9283 - val_Loss: 41730.8283 -
     val_mean_squared_error: 41730.8283
1116 Epoch 542/1000
      - 1s - loss: 37562.4115 - mean_squared_error: 37562.4115 - val_loss: 41845.3853 -
     val_mean_squared_error: 41845.3853
1118 Epoch 543/1000
1119 - 1s - Loss: 37563.9178 - mean_squared_error: 37563.9178 - val_loss: 41950.9136 -
      val_mean_squared_error: 41950.9136
1120 Epoch 544/1000
      - 1s - loss: 37644.2691 - mean_squared_error: 37644.2691 - val_loss: 42089.7645 -
     val_mean_squared_error: 42089.7645
1122 Epoch 545/1000
1123 - 1s - Loss: 37629.8496 - mean_squared_error: 37629.8496 - val_loss: 42270.4443 -
     val_mean_squared_error: 42270.4443
1124 Epoch 546/1000
1125 - 1s - Loss: 37561.0961 - mean_squared_error: 37561.0961 - val_loss: 42195.9119 -
     val_mean_squared_error: 42195.9119
1126 Epoch 547/1000
1127 - 1s - Loss: 37569.1877 - mean_squared_error: 37569.1877 - val_loss: 42145.4470 -
     val_mean_squared_error: 42145.4470
1128 Epoch 548/1000
      - 1s - loss: 37568.0759 - mean_squared_error: 37568.0759 - val_loss: 42217.2558 -
1129
     val_mean_squared_error: 42217.2558
1130 Epoch 549/1000
      - 1s - loss: 37571.1715 - mean_squared_error: 37571.1715 - val_loss: 42262.8849 -
     val_mean_squared_error: 42262.8849
1132 Epoch 550/1000
1133 - 1s - Loss: 37641.8329 - mean_squared_error: 37641.8329 - val_Loss: 42436.4555 -
     val_mean_squared_error: 42436.4555
1134 Epoch 551/1000
1135 - 1s - Loss: 37562.2040 - mean_squared_error: 37562.2040 - val_Loss: 42479.4898 -
     val_mean_squared_error: 42479.4898
1136 Epoch 552/1000
1137 - 1s - Loss: 37574.1801 - mean_squared_error: 37574.1801 - val_loss: 42390.7280 -
     val_mean_squared_error: 42390.7280
1138 Epoch 553/1000
1139 - 1s - Loss: 37640.0522 - mean_squared_error: 37640.0522 - val_Loss: 42683.2952 -
     val_mean_squared_error: 42683.2952
1140 Epoch 554/1000
      - 1s - Loss: 37615.7737 - mean_squared_error: 37615.7737 - val_loss: 42743.3835 -
      val_mean_squared_error: 42743.3835
1142 Epoch 555/1000
1143 - 1s - Loss: 37545.6166 - mean_squared_error: 37545.6166 - val_loss: 43929.5894 -
     val_mean_squared_error: 43929.5894
1144 Epoch 556/1000
1145 - 1s - loss: 37616.3590 - mean_squared_error: 37616.3590 - val_loss: 43227.6149 -
     val_mean_squared_error: 43227.6149
```

1146 Epoch 557/1000

```
File - run (1)
      - 1s - loss: 37644.2694 - mean_squared_error: 37644.2694 - val_loss: 43012.3872 -
      val_mean_squared_error: 43012.3872
1148 Epoch 558/1000
      - 1s - loss: 37631.2106 - mean_squared_error: 37631.2106 - val_loss: 42915.8533 -
1149
     val_mean_squared_error: 42915.8533
1150 Epoch 559/1000
      - 1s - loss: 37631.0742 - mean_squared_error: 37631.0742 - val_loss: 42720.2384 -
     val_mean_squared_error: 42720.2384
1152 Epoch 560/1000
1153 - 1s - Loss: 37624.7024 - mean_squared_error: 37624.7024 - val_loss: 42638.3903 -
     val_mean_squared_error: 42638.3903
1154 Epoch 561/1000
1155 - 1s - Loss: 37621.1859 - mean_squared_error: 37621.1859 - val_loss: 42594.3295 -
     val mean squared error: 42594.3295
1156 Epoch 562/1000
1157 - 1s - Loss: 37618.1094 - mean_squared_error: 37618.1094 - val_loss: 42582.8458 -
     val_mean_squared_error: 42582.8458
1158 Epoch 563/1000
      - 1s - loss: 37615.7968 - mean_squared_error: 37615.7968 - val_loss: 42590.8763 -
1159
     val_mean_squared_error: 42590.<u>8763</u>
1160 Epoch 564/1000
      - 1s - loss: 37457.9240 - mean_squared_error: 37457.9240 - val_loss: 43600.9583 -
     val_mean_squared_error: 43600.9583
1162 Epoch 565/1000
1163 - 1s - loss: 37452.5754 - mean_squared_error: 37452.5754 - val_loss: 44427.7857 -
     val_mean_squared_error: 44427.7857
1164 Epoch 566/1000
1165 - 1s - Loss: 37582.3563 - mean_squared_error: 37582.3563 - val_Loss: 43721.9525 -
     val_mean_squared_error: 43721.9525
1166 Epoch 567/1000
1167 - 1s - loss: 37596.9756 - mean_squared_error: 37596.9756 - val_loss: 43058.7561 -
     val_mean_squared_error: 43058.7561
1168 Epoch 568/1000
1169 - 1s - Loss: 37643.6873 - mean_squared_error: 37643.6873 - val_loss: 43243.6044 -
     val_mean_squared_error: 43243.6044
1170 Epoch 569/1000
      - 1s - loss: 37567.8302 - mean_squared_error: 37567.8302 - val_loss: 42385.3372 -
     val_mean_squared_error: 42385.3372
1172 Epoch 570/1000
      - 1s - loss: 37545.2759 - mean_squared_error: 37545.2759 - val_loss: 42978.8371 -
1173
     val_mean_squared_error: 42978.8371
1174 Epoch 571/1000
1175 - 1s - loss: 37640.4285 - mean_squared_error: 37640.4285 - val_loss: 42962.6664 -
     val_mean_squared_error: 42962.6664
1176 Epoch 572/1000
1177 - 1s - Loss: 37630.1885 - mean_squared_error: 37630.1885 - val_loss: 42948.9172 -
     val mean squared error: 42948.9172
1178 Epoch 573/1000
1179 - 1s - loss: 37627.7738 - mean_squared_error: 37627.7738 - val_loss: 42851.4582 -
     val_mean_squared_error: 42851.4582
1180 Epoch 574/1000
1181
      - 1s - loss: 37465.5343 - mean_squared_error: 37465.5343 - val_loss: 43799.9303 -
      val_mean_squared_error: 43799.9303
1182 Epoch 575/1000
1183 - 1s - loss: 37567.6018 - mean_squared_error: 37567.6018 - val_loss: 42978.9176 -
     val_mean_squared_error: 42978.9176
1184 Epoch 576/1000
1185 - 1s - Loss: 37584.2419 - mean_squared_error: 37584.2419 - val_Loss: 43203.2294 -
     val_mean_squared_error: 43203.2294
1186 Epoch 577/1000
```

1187 - 1s - loss: 37557.0577 - mean_squared_error: 37557.0577 - val_loss: 42686.8418 -

```
File - run (1)
1187 val_mean_squared_error: 42686.8418
1188 Epoch 578/1000
      - 1s - loss: 37564.5630 - mean_squared_error: 37564.5630 - val_loss: 42773.8465 -
1189
     val_mean_squared_error: 42773.8465
1190 Epoch 579/1000
      - 1s - loss: 37563.4036 - mean_squared_error: 37563.4036 - val_loss: 42848.3102 -
     val_mean_squared_error: 42848.3102
1192 Epoch 580/1000
      - 1s - loss: 37563.8162 - mean_squared_error: 37563.8162 - val_loss: 42886.6680 -
1193
     val_mean_squared_error: 42886.6680
1194 Epoch 581/1000
1195 - 1s - Loss: 37563.5085 - mean_squared_error: 37563.5085 - val_loss: 42925.0325 -
     val_mean_squared_error: 42925.0325
1196 Epoch 582/1000
1197 - 1s - Loss: 37563.5004 - mean_squared_error: 37563.5004 - val_loss: 42964.1264 -
     val_mean_squared_error: 42964.1264
1198 Epoch 583/1000
1199 - 1s - Loss: 37563.6194 - mean_squared_error: 37563.6194 - val_Loss: 43004.7848 -
     val_mean_squared_error: 43004.7848
1200 Epoch 584/1000
      - 1s - Loss: 37541.3774 - mean_squared_error: 37541.3774 - val_loss: 42997.6462 -
      val_mean_squared_error: 42997.6462
1202 Epoch 585/1000
1203 - 1s - Loss: 37557.2030 - mean_squared_error: 37557.2030 - val_loss: 43333.4240 -
     val_mean_squared_error: 43333.4240
1204 Epoch 586/1000
1205 - 1s - loss: 37542.7227 - mean_squared_error: 37542.7227 - val_loss: 43400.6258 -
     val_mean_squared_error: 43400.6258
1206 Epoch 587/1000
1207 - 1s - loss: 37536.8488 - mean_squared_error: 37536.8488 - val_loss: 43587.7427 -
     val_mean_squared_error: 43587.7427
1208 Epoch 588/1000
1209 - 1s - loss: 37538.9948 - mean_squared_error: 37538.9948 - val_loss: 43695.5897 -
     val_mean_squared_error: 43695.5897
1210 Epoch 589/1000
      - 1s - Loss: 37538.4976 - mean_squared_error: 37538.4976 - val_loss: 43798.3070 -
1211
     val_mean_squared_error: 43798.3070
1212 Epoch 590/1000
1213 - 1s - Loss: 37538.7068 - mean_squared_error: 37538.7068 - val_loss: 43881.0596 -
     val_mean_squared_error: 43881.0596
1214 Epoch 591/1000
1215 - 1s - Loss: 37538.6819 - mean_squared_error: 37538.6819 - val_Loss: 43952.4269 -
     val_mean_squared_error: 43952.4269
1216 Epoch 592/1000
1217 - 1s - Loss: 37533.2584 - mean_squared_error: 37533.2584 - val_Loss: 44097.8506 -
     val_mean_squared_error: 44097.8506
1218 Epoch 593/1000
1219 - 1s - Loss: 37522.3653 - mean_squared_error: 37522.3653 - val_Loss: 44193.8574 -
     val_mean_squared_error: 44193.8574
1220 Epoch 594/1000
      - 1s - loss: 37522.1360 - mean_squared_error: 37522.1360 - val_loss: 44238.3083 -
     val_mean_squared_error: 44238.3083
1222 Epoch 595/1000
      - 1s - Loss: 37521.1610 - mean_squared_error: 37521.1610 - val_Loss: 44266.3138 -
     val_mean_squared_error: 44266.3138
1224 Epoch 596/1000
1225 - 1s - loss: 37519.8511 - mean_squared_error: 37519.8511 - val_loss: 44288.6202 -
     val_mean_squared_error: 44288.6202
1226 Epoch 597/1000
1227 - 1s - loss: 37518.5925 - mean_squared_error: 37518.5925 - val_loss: 44305.9029 -
     val_mean_squared_error: 44305.9029
```

```
File - run (1)
1228 Epoch 598/1000
      - 1s - Loss: 37517.3088 - mean_squared_error: 37517.3088 - val_loss: 44321.0243 -
     val_mean_squared_error: 44321.0243
1230 Epoch 599/1000
      - 1s - loss: 37516.0932 - mean_squared_error: 37516.0932 - val_loss:
     val_mean_squared_error: 44335.3403
1232 Epoch 600/1000
1233 - 1s - loss: 37514.9257 - mean_squared_error: 37514.9257 - val_loss: 44349.0988 -
     val_mean_squared_error: 44349.0988
1234 Epoch 601/1000
1235 - 1s - loss: 37536.1855 - mean_squared_error: 37536.1855 - val_loss: 44082.9574 -
     val_mean_squared_error: 44082.9574
1236 Epoch 602/1000
1237 - 1s - loss: 37532.9702 - mean_squared_error: 37532.9702 - val_loss: 43819.6061 -
     val_mean_squared_error: 43819.6061
1238 Epoch 603/1000
      - 1s - Loss: 37521.4713 - mean_squared_error: 37521.4713 - val_loss: 43775.9371 -
     val_mean_squared_error: 43775.9371
1240 Epoch 604/1000
1241 - 1s - Loss: 37518.1397 - mean_squared_error: 37518.1397 - val_loss: 43738.2727 -
     val_mean_squared_error: 43738.2727
1242 Epoch 605/1000
1243 - 1s - loss: 37514.5577 - mean_squared_error: 37514.5577 - val_loss: 43733.5658 -
     val_mean_squared_error: 43733.5658
1244 Epoch 606/1000
1245 - 1s - Loss: 37512.0472 - mean_squared_error: 37512.0472 - val_loss: 43745.5236 -
     val_mean_squared_error: 43745.5236
1246 Epoch 607/1000
1247 - 1s - Loss: 37510.1141 - mean_squared_error: 37510.1141 - val_Loss: 43770.1512 -
     val_mean_squared_error: 43770.1512
1248 Epoch 608/1000
1249 - 1s - Loss: 37508.6962 - mean_squared_error: 37508.6962 - val_loss: 43802.6023 -
     val_mean_squared_error: 43802.6023
1250 Epoch 609/1000
      - 1s - loss: 37507.6430 - mean_squared_error: 37507.6430 - val_loss: 43839.2497 -
     val_mean_squared_error: 43839.2497
1252 Epoch 610/1000
      - 1s - loss: 37506.8410 - mean_squared_error: 37506.8410 - val_loss: 43877.5858 -
     val_mean_squared_error: 43877.5858
1254 Epoch 611/1000
1255 - 1s - loss: 37506.2407 - mean_squared_error: 37506.2407 - val_loss: 43916.0048 -
     val_mean_squared_error: 43916.0048
1256 Epoch 612/1000
1257 - 1s - loss: 37505.7525 - mean_squared_error: 37505.7525 - val_loss: 43953.2228 -
     val_mean_squared_error: 43953.2228
1258 Epoch 613/1000
1259 - 1s - loss: 37505.3677 - mean_squared_error: 37505.3677 - val_loss: 43988.7679 -
     val_mean_squared_error: 43988.7679
1260 Epoch 614/1000
1261 - 1s - Loss: 37505.0151 - mean_squared_error: 37505.0151 - val_Loss: 44022.2204 -
      val_mean_squared_error: 44022.2204
1262 Epoch 615/1000
      - 1s - loss: 37504.6735 - mean_squared_error: 37504.6735 - val_loss: 44053.3490 -
     val_mean_squared_error: 44053.3490
1264 Epoch 616/1000
1265 - 1s - Loss: 37504.3449 - mean_squared_error: 37504.3449 - val_loss: 44082.3476 -
     val_mean_squared_error: 44082.3476
1266 Epoch 617/1000
1267 - 1s - Loss: 37504.0190 - mean_squared_error: 37504.0190 - val_Loss: 44109.3269 -
     val_mean_squared_error: 44109.3269
```

1268 Epoch 618/1000

```
File - run (1)
      - 1s - loss: 37503.6868 - mean_squared_error: 37503.6868 - val_loss: 44134.4517 -
     val_mean_squared_error: 44134.4517
1270 Epoch 619/1000
      - 1s - loss: 37503.3608 - mean_squared_error: 37503.3608 - val_loss: 44157.9496 -
1271
     val_mean_squared_error: 44157.9496
1272 Epoch 620/1000
      - 1s - loss: 37502.9929 - mean_squared_error: 37502.9929 - val_loss: 44179.9490 -
     val_mean_squared_error: 44179.9490
1274 Epoch 621/1000
1275 - 1s - loss: 37502.6277 - mean_squared_error: 37502.6277 - val_loss: 44200.8266 -
     val_mean_squared_error: 44200.8266
1276 Epoch 622/1000
1277 - 1s - Loss: 37502.2371 - mean_squared_error: 37502.2371 - val_loss: 44220.4480 -
     val_mean_squared_error: 44220.4480
1278 Epoch 623/1000
1279 - 1s - Loss: 37501.8413 - mean_squared_error: 37501.8413 - val_Loss: 44239.1506 -
     val_mean_squared_error: 44239.1506
1280 Epoch 624/1000
1281 - 1s - Loss: 37501.2823 - mean_squared_error: 37501.2823 - val_loss: 44256.5550 -
      val_mean_squared_error: 44256.5550
1282 Epoch 625/1000
      - 1s - loss: 37500.8943 - mean_squared_error: 37500.8943 - val_loss: 44273.1629 -
     val_mean_squared_error: 44273.1629
1284 Epoch 626/1000
1285 - 1s - loss: 37500.4633 - mean_squared_error: 37500.4633 - val_loss: 44289.7399 -
     val_mean_squared_error: 44289.7399
1286 Epoch 627/1000
1287 - 1s - Loss: 37500.0461 - mean_squared_error: 37500.0461 - val_loss: 44305.6015 -
     val_mean_squared_error: 44305.6015
1288 Epoch 628/1000
1289 - 1s - Loss: 37499.6117 - mean_squared_error: 37499.6117 - val_Loss: 44321.0888 -
     val_mean_squared_error: 44321.0888
1290 Epoch 629/1000
1291 - 1s - Loss: 37499.1842 - mean_squared_error: 37499.1842 - val_Loss: 44336.1873 -
     val_mean_squared_error: 44336.1873
1292 Epoch 630/1000
      - 1s - loss: 37498.7390 - mean_squared_error: 37498.7390 - val_loss: 44350.7979 -
     val_mean_squared_error: 44350.7979
1294 Epoch 631/1000
      - 1s - loss: 37498.2861 - mean_squared_error: 37498.2861 - val_loss: 44365.1006 -
     val_mean_squared_error: 44365.1006
1296 Epoch 632/1000
1297 - 1s - loss: 37497.8428 - mean_squared_error: 37497.8428 - val_loss: 44378.9997 -
     val_mean_squared_error: 44378.9997
1298 Epoch 633/1000
1299 - 1s - Loss: 37497.3753 - mean_squared_error: 37497.3753 - val_loss: 44392.4710 -
     val mean squared error: 44392.4710
1300 Epoch 634/1000
      - 1s - Loss: 37496.9210 - mean_squared_error: 37496.9210 - val_loss: 44405.7022 -
     val_mean_squared_error: 44405.7022
1302 Epoch 635/1000
      - 1s - loss: 37496.4565 - mean_squared_error: 37496.4565 - val_loss: 44418.5813 -
1303
      val_mean_squared_error: 44418.5813
1304 Epoch 636/1000
      - 1s - loss: 37495.9762 - mean_squared_error: 37495.9762 - val_loss: 44431.1486 -
     val_mean_squared_error: 44431.1486
1306 Epoch 637/1000
1307 - 1s - Loss: 37495.5106 - mean_squared_error: 37495.5106 - val_Loss: 44443.3993 -
     val_mean_squared_error: 44443.3993
1308 Epoch 638/1000
```

1309 - 1s - Loss: 37495.0395 - mean_squared_error: 37495.0395 - val_loss: 44455.3813 -

```
File - run (1)
1309 val_mean_squared_error: 44455.3813
1310 Epoch 639/1000
1311 - 1s - Loss: 37494.3030 - mean_squared_error: 37494.3030 - val_loss: 44462.9657 -
     val_mean_squared_error: 44462.9657
1312 Epoch 640/1000
      - 1s - loss: 37494.5080 - mean_squared_error: 37494.5080 - val_loss: 44465.6233 -
     val_mean_squared_error: 44465.6233
1314 Epoch 641/1000
1315 - 1s - loss: 37493.8092 - mean_squared_error: 37493.8092 - val_loss: 44476.4239 -
     val_mean_squared_error: 44476.4239
1316 Epoch 642/1000
1317 - 1s - Loss: 37493.3165 - mean_squared_error: 37493.3165 - val_loss: 44487.2890 -
     val_mean_squared_error: 44487.2890
1318 Epoch 643/1000
1319 - 1s - Loss: 37492.8210 - mean_squared_error: 37492.8210 - val_loss: 44498.4371 -
     val_mean_squared_error: 44498.4371
1320 Epoch 644/1000
1321 - 1s - Loss: 37492.3541 - mean_squared_error: 37492.3541 - val_Loss: 44509.0063 -
      val_mean_squared_error: 44509.0063
1322 Epoch 645/1000
      - 1s - Loss: 37491.8748 - mean_squared_error: 37491.8748 - val_loss: 44519.1846 -
      val_mean_squared_error: 44519.1846
1324 Epoch 646/1000
1325 - 1s - Loss: 37491.4030 - mean_squared_error: 37491.4030 - val_loss: 44528.9653 -
     val_mean_squared_error: 44528.9653
1326 Epoch 647/1000
1327 - 1s - Loss: 37490.9118 - mean_squared_error: 37490.9118 - val_Loss: 44538.4450 -
     val_mean_squared_error: 44538.4450
1328 Epoch 648/1000
1329 - 1s - Loss: 37490.4420 - mean_squared_error: 37490.4420 - val_loss: 44547.8332 -
     val mean squared error: 44547.8332
1330 Epoch 649/1000
1331 - 1s - Loss: 37489.9819 - mean_squared_error: 37489.9819 - val_Loss: 44556.9359 -
     val_mean_squared_error: 44556.9359
1332 Epoch 650/1000
      - 1s - loss: 37489.5264 - mean_squared_error: 37489.5264 - val_loss: 44565.5334 -
1333
     val_mean_squared_error: 44565.5334
1334 Epoch 651/1000
      - 1s - loss: 37489.0645 - mean_squared_error: 37489.0645 - val_loss: 44573.9585 -
     val_mean_squared_error: 44573.9585
1336 Epoch 652/1000
      - 1s - loss: 37488.6079 - mean_squared_error: 37488.6079 - val_loss: 44582.2724 -
     val_mean_squared_error: 44582.2724
1338 Epoch 653/1000
1339 - 1s - Loss: 37487.3391 - mean_squared_error: 37487.3391 - val_loss: 44478.1654 -
     val_mean_squared_error: 44478.1654
1340 Epoch 654/1000
1341 - 1s - Loss: 37484.4726 - mean_squared_error: 37484.4726 - val_loss: 44470.8159 -
     val_mean_squared_error: 44470.8159
1342 Epoch 655/1000
      - 1s - loss: 37483.4283 - mean_squared_error: 37483.4283 - val_loss: 44501.4318 -
     val_mean_squared_error: 44501.4318
1344 Epoch 656/1000
      - 1s - loss: 37483.7055 - mean_squared_error: 37483.7055 - val_loss: 44518.9831 -
     val_mean_squared_error: 44518.9831
1346 Epoch 657/1000
1347 - 1s - loss: 37483.4367 - mean_squared_error: 37483.4367 - val_loss: 44526.4026 -
     val_mean_squared_error: 44526.4026
1348 Epoch 658/1000
1349 - 1s - Loss: 37472.7199 - mean_squared_error: 37472.7199 - val_loss: 44548.5086 -
     val_mean_squared_error: 44548.5086
```

```
File - run (1)
1350 Epoch 659/1000
      - 1s - loss: 37470.7222 - mean_squared_error: 37470.7222 - val_loss: 44564.8161 -
      val_mean_squared_error: 44564.8161
1352 Epoch 660/1000
      - 1s - loss: 37455.5850 - mean_squared_error: 37455.5850 - val_loss:
1353
     val_mean_squared_error: 44804.4932
1354 Epoch 661/1000
1355 - 1s - loss: 37483.4372 - mean_squared_error: 37483.4372 - val_loss: 45150.3844 -
     val_mean_squared_error: 45150.3844
1356 Epoch 662/1000
1357 - 1s - loss: 37416.4956 - mean_squared_error: 37416.4956 - val_loss: 45070.4512 -
     val_mean_squared_error: 45070.4512
1358 Epoch 663/1000
1359 - 1s - loss: 37405.7922 - mean_squared_error: 37405.7922 - val_loss: 44968.4173 -
     val_mean_squared_error: 44968.4173
1360 Epoch 664/1000
1361 - 1s - Loss: 37465.9999 - mean_squared_error: 37465.9999 - val_loss: 44917.0187 -
     val_mean_squared_error: 44917.0187
1362 Epoch 665/1000
1363 - 1s - Loss: 37477.6799 - mean_squared_error: 37477.6799 - val_loss: 45256.0221 -
     val_mean_squared_error: 45256.0221
1364 Epoch 666/1000
      - 1s - loss: 37448.4962 - mean_squared_error: 37448.4962 - val_loss: 45397.5913 -
     val_mean_squared_error: 45397.5913
1366 Epoch 667/1000
1367 - 1s - Loss: 37369.3544 - mean_squared_error: 37369.3544 - val_loss: 44881.5441 -
     val_mean_squared_error: 44881.5441
1368 Epoch 668/1000
1369 - 1s - Loss: 37470.7541 - mean_squared_error: 37470.7541 - val_loss: 45308.8249 -
     val_mean_squared_error: 45308.8249
1370 Epoch 669/1000
1371 - 1s - loss: 37448.2904 - mean_squared_error: 37448.2904 - val_loss: 45400.4744 -
     val_mean_squared_error: 45400.4744
1372 Epoch 670/1000
      - 1s - loss: 37428.5326 - mean_squared_error: 37428.5326 - val_loss: 44874.2755 -
1373
     val_mean_squared_error: 44874.2755
1374 Epoch 671/1000
      - 1s - loss: 37460.1221 - mean_squared_error: 37460.1221 - val_loss: 45185.1989 -
     val_mean_squared_error: 45185.1989
1376 Epoch 672/1000
1377 - 1s - Loss: 37436.0512 - mean_squared_error: 37436.0512 - val_loss: 45248.1130 -
     val_mean_squared_error: 45248.<u>1130</u>
1378 Epoch 673/1000
      - 1s - loss: 37437.9856 - mean_squared_error: 37437.9856 - val_loss: 45162.0028 -
     val_mean_squared_error: 45162.0028
1380 Epoch 674/1000
1381 - 1s - loss: 37427.0703 - mean_squared_error: 37427.0703 - val_loss: 45118.9912 -
     val_mean_squared_error: 45118.9912
1382 Epoch 675/1000
1383 - 1s - Loss: 37411.8214 - mean_squared_error: 37411.8214 - val_Loss: 45202.0903 -
      val_mean_squared_error: 45202.0903
1384 Epoch 676/1000
      - 1s - Loss: 37453.5246 - mean_squared_error: 37453.5246 - val_loss: 44998.0112 -
1385
     val_mean_squared_error: 44998.0112
1386 Epoch 677/1000
1387 - 1s - loss: 37366.4792 - mean_squared_error: 37366.4792 - val_loss: 45147.3390 -
     val_mean_squared_error: 45147.3390
1388 Epoch 678/1000
1389 - 1s - Loss: 37428.8515 - mean_squared_error: 37428.8515 - val_Loss: 44988.2328 -
     val_mean_squared_error: 44988.2328
1390 Epoch 679/1000
```

```
File - run (1)
      - 1s - loss: 37382.0767 - mean_squared_error: 37382.0767 - val_loss: 44863.0018 -
      val_mean_squared_error: 44863.0018
1392 Epoch 680/1000
      - 1s - loss: 37393.7409 - mean_squared_error: 37393.7409 - val_loss: 44621.8432 -
1393
     val_mean_squared_error: 44621.8432
1394 Epoch 681/1000
      - 1s - loss: 37412.2523 - mean_squared_error: 37412.2523 - val_loss: 44493.5060 -
     val_mean_squared_error: 44493.5060
1396 Epoch 682/1000
      - 1s - loss: 37468.9268 - mean_squared_error: 37468.9268 - val_loss: 44898.7231 -
     val_mean_squared_error: 44898.7231
1398 Epoch 683/1000
1399 - 1s - Loss: 37436.0402 - mean_squared_error: 37436.0402 - val_loss: 44230.1947 -
     val_mean_squared_error: 44230.1947
1400 Epoch 684/1000
1401 - 1s - loss: 37483.5785 - mean_squared_error: 37483.5785 - val_loss: 44644.6075 -
     val_mean_squared_error: 44644.6075
1402 Epoch 685/1000
1403 - 1s - loss: 37378.6334 - mean_squared_error: 37378.6334 - val_loss: 44745.6601 -
      val_mean_squared_error: 44745.6601
1404 Epoch 686/1000
      - 1s - loss: 37389.2626 - mean_squared_error: 37389.2626 - val_loss: 44415.9915 -
1405
     val_mean_squared_error: 44415.9915
1406 Epoch 687/1000
1407 - 1s - loss: 37494.9614 - mean_squared_error: 37494.9614 - val_loss: 44189.8139 -
     val_mean_squared_error: 44189.8139
1408 Epoch 688/1000
1409 - 1s - loss: 37455.4539 - mean_squared_error: 37455.4539 - val_loss: 44627.2598 -
     val_mean_squared_error: 44627.2598
1410 Epoch 689/1000
1411 - 1s - Loss: 37387.5368 - mean_squared_error: 37387.5368 - val_loss: 44331.9736 -
     val_mean_squared_error: 44331.9736
1412 Epoch 690/1000
1413 - 1s - Loss: 37429.4481 - mean_squared_error: 37429.4481 - val_Loss: 43932.9393 -
     val_mean_squared_error: 43932.9393
1414 Epoch 691/1000
      - 1s - loss: 37430.8483 - mean_squared_error: 37430.8483 - val_loss: 43775.6011 -
     val_mean_squared_error: 43775.6011
1416 Epoch 692/1000
      - 1s - loss: 37449.5599 - mean_squared_error: 37449.5599 - val_loss: 43471.3910 -
     val_mean_squared_error: 43471.3910
1418 Epoch 693/1000
1419 - 1s - Loss: 37412.6586 - mean_squared_error: 37412.6586 - val_Loss: 43757.3271 -
     val_mean_squared_error: 43757.3271
1420 Epoch 694/1000
1421 - 1s - Loss: 37435.0860 - mean_squared_error: 37435.0860 - val_loss: 43674.3604 -
     val mean squared error: 43674.3604
1422 Epoch 695/1000
1423 - 1s - loss: 37457.4549 - mean_squared_error: 37457.4549 - val_loss: 43822.9899 -
     val_mean_squared_error: 43822.9899
1424 Epoch 696/1000
1425 - 1s - loss: 37414.4464 - mean_squared_error: 37414.4464 - val_loss: 44464.9878 -
      val_mean_squared_error: 44464.9878
1426 Epoch 697/1000
1427 - 1s - loss: 37439.2374 - mean_squared_error: 37439.2374 - val_loss: 44012.4185 -
     val_mean_squared_error: 44012.4185
1428 Epoch 698/1000
1429 - 1s - Loss: 37446.4355 - mean_squared_error: 37446.4355 - val_Loss: 43516.3493 -
     val_mean_squared_error: 43516.3493
1430 Epoch 699/1000
```

1431 - 1s - Loss: 37459.1386 - mean_squared_error: 37459.1386 - val_Loss: 43240.1305 -

```
File - run (1)
1431 val_mean_squared_error: 43240.1305
1432 Epoch 700/1000
1433 - 1s - Loss: 37421.1504 - mean_squared_error: 37421.1504 - val_loss: 43435.1207 -
     val_mean_squared_error: 43435.1207
1434 Epoch 701/1000
      - 1s - loss: 37438.3537 - mean_squared_error: 37438.3537 - val_loss: 43332.1457 -
     val_mean_squared_error: 43332.1457
1436 Epoch 702/1000
      - 1s - loss: 37444.9819 - mean_squared_error: 37444.9819 - val_loss: 43720.8252 -
     val_mean_squared_error: 43720.8252
1438 Epoch 703/1000
      - 1s - loss: 37432.2559 - mean_squared_error: 37432.2559 - val_loss: 43608.9372 -
     val_mean_squared_error: 43608.9372
1440 Epoch 704/1000
1441 - 1s - Loss: 37442.1297 - mean_squared_error: 37442.1297 - val_loss: 43469.0408 -
     val_mean_squared_error: 43469.0408
1442 Epoch 705/1000
1443 - 1s - loss: 37446.4247 - mean_squared_error: 37446.4247 - val_loss: 43826.5333 -
     val_mean_squared_error: 43826.5333
1444 Epoch 706/1000
      - 1s - Loss: 37436.5968 - mean_squared_error: 37436.5968 - val_loss: 43654.3220 -
1445
      val_mean_squared_error: 43654.3220
1446 Epoch 707/1000
      - 1s - loss: 37428.1874 - mean_squared_error: 37428.1874 - val_loss: 43563.3070 -
     val_mean_squared_error: 43563.3070
1448 Epoch 708/1000
1449 - 1s - loss: 37466.5322 - mean_squared_error: 37466.5322 - val_loss: 43184.5717 -
     val_mean_squared_error: 43184.5717
1450 Epoch 709/1000
1451 - 1s - Loss: 37422.7166 - mean_squared_error: 37422.7166 - val_loss: 43436.2960 -
     val_mean_squared_error: 43436.2960
1452 Epoch 710/1000
1453 - 1s - Loss: 37444.8590 - mean_squared_error: 37444.8590 - val_loss: 43340.7993 -
     val_mean_squared_error: 43340.7993
1454 Epoch 711/1000
      - 1s - loss: 37448.8854 - mean_squared_error: 37448.8854 - val_loss: 43752.6314 -
1455
     val_mean_squared_error: 43752.6314
1456 Epoch 712/1000
      - 1s - loss: 37437.5779 - mean_squared_error: 37437.5779 - val_loss: 43633.9308 -
     val_mean_squared_error: 43633.9308
1458 Epoch 713/1000
      - 1s - loss: 37448.4734 - mean_squared_error: 37448.4734 - val_loss: 43498.4614 -
     val_mean_squared_error: 43498.4614
1460 Epoch 714/1000
      - 1s - Loss: 37451.3921 - mean_squared_error: 37451.3921 - val_loss: 43861.0935 -
     val_mean_squared_error: 43861.0935
1462 Epoch 715/1000
1463 - 1s - Loss: 37442.3325 - mean_squared_error: 37442.3325 - val_loss: 43678.4856 -
     val_mean_squared_error: 43678.4856
1464 Epoch 716/1000
      - 1s - loss: 37449.3842 - mean_squared_error: 37449.3842 - val_loss: 43514.6456 -
     val_mean_squared_error: 43514.6456
1466 Epoch 717/1000
      - 1s - loss: 37453.3224 - mean_squared_error: 37453.3224 - val_loss: 43857.2606 -
     val_mean_squared_error: 43857.2606
1468 Epoch 718/1000
1469 - 1s - loss: 37444.0320 - mean_squared_error: 37444.0320 - val_loss: 43664.6627 -
     val_mean_squared_error: 43664.6627
1470 Epoch 719/1000
1471 - 1s - loss: 37434.5720 - mean_squared_error: 37434.5720 - val_loss: 43568.3461 -
     val_mean_squared_error: 43568.3461
```

```
File - run (1)
1472 Epoch 720/1000
1473 - 1s - loss: 37451.0028 - mean_squared_error: 37451.0028 - val_loss: 43319.5744 -
     val_mean_squared_error: 43319.5744
1474 Epoch 721/1000
      - 1s - loss: 37469.2969 - mean_squared_error: 37469.2969 - val_loss:
1475
     val_mean_squared_error: 43171.<u>7958</u>
1476 Epoch 722/1000
      - 1s - loss: 37358.8597 - mean_squared_error: 37358.8597 - val_loss: 43192.9775 -
     val_mean_squared_error: 43192.9775
1478 Epoch 723/1000
1479 - 1s - loss: 37505.9719 - mean_squared_error: 37505.9719 - val_loss: 43486.0494 -
     val_mean_squared_error: 43486.0494
1480 Epoch 724/1000
1481 - 1s - Loss: 37397.0126 - mean_squared_error: 37397.0126 - val_Loss: 43218.2350 -
     val_mean_squared_error: 43218.2350
1482 Epoch 725/1000
1483 - 1s - Loss: 37412.6400 - mean_squared_error: 37412.6400 - val_loss: 43574.5455 -
     val_mean_squared_error: 43574.5455
1484 Epoch 726/1000
1485 - 1s - Loss: 37433.0223 - mean_squared_error: 37433.0223 - val_loss: 43090.2642 -
     val_mean_squared_error: 43090.2642
1486 Epoch 727/1000
      - 1s - loss: 37440.5460 - mean_squared_error: 37440.5460 - val_loss: 42834.0637 -
     val_mean_squared_error: 42834.0637
1488 Epoch 728/1000
1489 - 1s - Loss: 37455.9982 - mean_squared_error: 37455.9982 - val_loss: 42715.4356 -
     val_mean_squared_error: 42715.4356
1490 Epoch 729/1000
1491 - 1s - Loss: 37418.7101 - mean_squared_error: 37418.7101 - val_loss: 42980.0577 -
     val_mean_squared_error: 42980.0577
1492 Epoch 730/1000
1493 - 1s - Loss: 37424.1830 - mean_squared_error: 37424.1830 - val_loss: 42980.1327 -
     val_mean_squared_error: 42980.1327
1494 Epoch 731/1000
1495 - 1s - Loss: 37461.0293 - mean_squared_error: 37461.0293 - val_Loss: 42790.0859 -
     val_mean_squared_error: 42790.0859
1496 Epoch 732/1000
      - 1s - loss: 37418.6200 - mean_squared_error: 37418.6200 - val_loss: 43132.7558 -
     val_mean_squared_error: 43132.7558
1498 Epoch 733/1000
      - 1s - loss: 37439.3315 - mean_squared_error: 37439.3315 - val_loss: 42991.2280 -
     val_mean_squared_error: 42991.2280
1500 Epoch 734/1000
      - 1s - loss: 37473.0497 - mean_squared_error: 37473.0497 - val_loss: 42703.6659 -
     val_mean_squared_error: 42703.6659
1502 Epoch 735/1000
1503 - 1s - loss: 37426.2657 - mean_squared_error: 37426.2657 - val_loss: 43017.2898 -
     val_mean_squared_error: 43017.2898
1504 Epoch 736/1000
1505 - 1s - loss: 37434.6970 - mean_squared_error: 37434.6970 - val_loss: 42698.1955 -
     val_mean_squared_error: 42698.1955
1506 Epoch 737/1000
      - 1s - loss: 37464.7603 - mean_squared_error: 37464.7603 - val_loss: 42546.1151 -
1507
      val_mean_squared_error: 42546.1151
1508 Epoch 738/1000
      - 1s - loss: 37484.2283 - mean_squared_error: 37484.2283 - val_loss: 42407.4546 -
     val_mean_squared_error: 42407.4546
1510 Epoch 739/1000
1511 - 1s - loss: 37352.1734 - mean_squared_error: 37352.1734 - val_loss: 42006.0356 -
     val_mean_squared_error: 42006.0356
1512 Epoch 740/1000
```

```
File - run (1)
      - 1s - loss: 37437.9528 - mean_squared_error: 37437.9528 - val_loss: 42966.0204 -
     val_mean_squared_error: 42966.0204
1514 Epoch 741/1000
      - 1s - loss: 37337.0815 - mean_squared_error: 37337.0815 - val_loss: 42937.5701 -
1515
     val_mean_squared_error: 42937.5701
1516 Epoch 742/1000
      - 1s - loss: 37362.0851 - mean_squared_error: 37362.0851 - val_loss: 43818.3381 -
     val_mean_squared_error: 43818.3381
1518 Epoch 743/1000
      - 1s - loss: 37415.4235 - mean_squared_error: 37415.4235 - val_loss: 44762.8402 -
     val_mean_squared_error: 44762.8402
1520 Epoch 744/1000
1521 - 1s - Loss: 37450.7850 - mean_squared_error: 37450.7850 - val_loss: 44297.1318 -
     val_mean_squared_error: 44297.1318
1522 Epoch 745/1000
1523 - 1s - loss: 37445.4059 - mean_squared_error: 37445.4059 - val_loss: 44121.0002 -
     val_mean_squared_error: 44121.0002
1524 Epoch 746/1000
1525 - 1s - Loss: 37460.5995 - mean_squared_error: 37460.5995 - val_loss: 44015.6606 -
     val_mean_squared_error: 44015.<u>6606</u>
1526 Epoch 747/1000
      - 1s - loss: 37363.4897 - mean_squared_error: 37363.4897 - val_loss: 44975.2428 -
     val_mean_squared_error: 44975.2428
1528 Epoch 748/1000
1529 - 1s - loss: 37393.1039 - mean_squared_error: 37393.1039 - val_loss: 45186.5320 -
     val_mean_squared_error: 45186.5320
1530 Epoch 749/1000
1531 - 1s - Loss: 37440.3500 - mean_squared_error: 37440.3500 - val_loss: 45519.8141 -
     val_mean_squared_error: 45519.8141
1532 Epoch 750/1000
1533 - 1s - Loss: 37400.4017 - mean_squared_error: 37400.4017 - val_loss: 45609.0374 -
     val_mean_squared_error: 45609.0374
1534 Epoch 751/1000
1535 - 1s - Loss: 37476.1160 - mean_squared_error: 37476.1160 - val_Loss: 45580.3593 -
     val_mean_squared_error: 45580.3593
1536 Epoch 752/1000
      - 1s - loss: 37415.9961 - mean_squared_error: 37415.9961 - val_loss: 44751.9017 -
     val_mean_squared_error: 44751.9017
1538 Epoch 753/1000
      - 1s - loss: 37454.6061 - mean_squared_error: 37454.6061 - val_loss: 45308.9030 -
     val_mean_squared_error: 45308.9030
1540 Epoch 754/1000
1541 - 1s - loss: 37415.0400 - mean_squared_error: 37415.0400 - val_loss: 44584.6830 -
     val_mean_squared_error: 44584.6830
1542 Epoch 755/1000
1543 - 1s - Loss: 37456.1117 - mean_squared_error: 37456.1117 - val_loss: 45208.7300 -
     val mean squared error: 45208.7300
1544 Epoch 756/1000
1545 - 1s - loss: 37434.2027 - mean_squared_error: 37434.2027 - val_loss: 44435.0828 -
     val_mean_squared_error: 44435.0828
1546 Epoch 757/1000
      - 1s - loss: 37440.6941 - mean_squared_error: 37440.6941 - val_loss: 45309.3424 -
1547
      val_mean_squared_error: 45309.3424
1548 Epoch 758/1000
      - 1s - loss: 37396.8843 - mean_squared_error: 37396.8843 - val_loss: 44676.9358 -
     val_mean_squared_error: 44676.9358
1550 Epoch 759/1000
1551 - 1s - loss: 37449.4174 - mean_squared_error: 37449.4174 - val_loss: 45157.5010 -
     val_mean_squared_error: 45157.5010
1552 Epoch 760/1000
```

1553 - 1s - loss: 37406.7178 - mean_squared_error: 37406.7178 - val_loss: 44511.6166 -

```
File - run (1)
1553 val_mean_squared_error: 44511.6166
1554 Epoch 761/1000
      - 1s - loss: 37448.7177 - mean_squared_error: 37448.7177 - val_loss: 45190.7130 -
1555
     val_mean_squared_error: 45190.7130
1556 Epoch 762/1000
      - 1s - loss: 37429.8987 - mean_squared_error: 37429.8987 - val_loss: 44454.1461 -
     val_mean_squared_error: 44454.1461
1558 Epoch 763/1000
      - 1s - loss: 37362.1399 - mean_squared_error: 37362.1399 - val_loss: 45735.8049 -
     val_mean_squared_error: 45735.8049
1560 Epoch 764/1000
      - 1s - loss: 37404.0587 - mean_squared_error: 37404.0587 - val_loss: 45499.9392 -
     val_mean_squared_error: 45499.9392
1562 Epoch 765/1000
1563 - 1s - Loss: 37480.6586 - mean_squared_error: 37480.6586 - val_Loss: 45875.6126 -
     val_mean_squared_error: 45875.6126
1564 Epoch 766/1000
1565 - 1s - Loss: 37416.9985 - mean_squared_error: 37416.9985 - val_Loss: 45010.1533 -
     val_mean_squared_error: 45010.1533
1566 Epoch 767/1000
      - 1s - Loss: 37465.5967 - mean_squared_error: 37465.5967 - val_loss: 45458.3701 -
      val_mean_squared_error: 45458.3701
1568 Epoch 768/1000
1569 - 1s - Loss: 37411.6443 - mean_squared_error: 37411.6443 - val_loss: 44676.7986 -
     val_mean_squared_error: 44676.7986
1570 Epoch 769/1000
1571 - 1s - Loss: 37453.5068 - mean_squared_error: 37453.5068 - val_Loss: 45231.5848 -
     val_mean_squared_error: 45231.5848
1572 Epoch 770/1000
1573 - 1s - loss: 37410.9990 - mean_squared_error: 37410.9990 - val_loss: 44570.4300 -
     val_mean_squared_error: 44570.4300
1574 Epoch 771/1000
1575 - 1s - loss: 37469.8494 - mean_squared_error: 37469.8494 - val_loss: 45128.9851 -
     val_mean_squared_error: 45128.9851
1576 Epoch 772/1000
      - 1s - loss: 37392.2779 - mean_squared_error: 37392.2779 - val_loss: 44727.2318 -
1577
     val_mean_squared_error: 44727.2318
1578 Epoch 773/1000
      - 1s - loss: 37364.4773 - mean_squared_error: 37364.4773 - val_loss: 45362.7411 -
     val_mean_squared_error: 45362.7411
1580 Epoch 774/1000
      - 1s - loss: 37467.8765 - mean_squared_error: 37467.8765 - val_loss: 45613.0671 -
     val_mean_squared_error: 45613.0671
1582 Epoch 775/1000
1583 - 1s - Loss: 37410.3731 - mean_squared_error: 37410.3731 - val_Loss: 44945.4273 -
     val_mean_squared_error: 44945.4273
1584 Epoch 776/1000
1585 - 1s - loss: 37454.4789 - mean_squared_error: 37454.4789 - val_loss: 45437.4588 -
     val_mean_squared_error: 45437.4588
1586 Epoch 777/1000
      - 1s - Loss: 37408.9684 - mean_squared_error: 37408.9684 - val_loss: 44719.9307 -
1587
      val_mean_squared_error: 44719.9307
1588 Epoch 778/1000
      - 1s - loss: 37449.8229 - mean_squared_error: 37449.8229 - val_loss: 45385.1671 -
     val_mean_squared_error: 45385.1671
1590 Epoch 779/1000
1591 - 1s - Loss: 37428.4922 - mean_squared_error: 37428.4922 - val_loss: 44597.3537 -
     val_mean_squared_error: 44597.3537
1592 Epoch 780/1000
1593 - 1s - loss: 37358.6679 - mean_squared_error: 37358.6679 - val_loss: 45892.1206 -
     val_mean_squared_error: 45892.1206
```

```
File - run (1)
1594 Epoch 781/1000
      - 1s - loss: 37400.6597 - mean_squared_error: 37400.6597 - val_loss: 45646.4967 -
     val_mean_squared_error: 45646.4967
1596 Epoch 782/1000
1597
      - 1s - loss: 37406.6147 - mean_squared_error: 37406.6147 - val_loss:
     val_mean_squared_error: 45715.9701
1598 Epoch 783/1000
      - 1s - Loss: 37410.7446 - mean_squared_error: 37410.7446 - val_loss: 46040.9783 -
     val_mean_squared_error: 46040.9783
1600 Epoch 784/1000
1601 - 1s - loss: 37422.0306 - mean_squared_error: 37422.0306 - val_loss: 46244.4146 -
     val_mean_squared_error: 46244.4146
1602 Epoch 785/1000
1603 - 1s - Loss: 37501.6335 - mean_squared_error: 37501.6335 - val_loss: 46492.7888 -
     val_mean_squared_error: 46492.7888
1604 Epoch 786/1000
1605 - 1s - Loss: 37428.4954 - mean_squared_error: 37428.4954 - val_loss: 45328.7372 -
     val_mean_squared_error: 45328.7372
1606 Epoch 787/1000
1607 - 1s - Loss: 37465.6282 - mean_squared_error: 37465.6282 - val_loss: 45651.6517 -
     val_mean_squared_error: 45651.6517
1608 Epoch 788/1000
      - 1s - loss: 37411.3550 - mean_squared_error: 37411.3550 - val_loss: 44864.6420 -
     val_mean_squared_error: 44864.6420
1610 Epoch 789/1000
1611 - 1s - Loss: 37448.3504 - mean_squared_error: 37448.3504 - val_loss: 45398.0201 -
     val_mean_squared_error: 45398.0201
1612 Epoch 790/1000
1613 - 1s - loss: 37408.0395 - mean_squared_error: 37408.0395 - val_loss: 44660.3542 -
     val_mean_squared_error: 44660.3542
1614 Epoch 791/1000
1615 - 1s - loss: 37390.2996 - mean_squared_error: 37390.2996 - val_loss: 45589.4049 -
     val_mean_squared_error: 45589.4049
1616 Epoch 792/1000
      - 1s - loss: 37390.8389 - mean_squared_error: 37390.8389 - val_loss: 46054.6581 -
1617
     val_mean_squared_error: 46054.6581
1618 Epoch 793/1000
      - 1s - loss: 37401.5523 - mean_squared_error: 37401.5523 - val_loss:
     val_mean_squared_error: 45857.6824
1620 Epoch 794/1000
      - 1s - loss: 37409.5132 - mean_squared_error: 37409.5132 - val_loss: 45931.1284 -
     val_mean_squared_error: 45931.1284
1622 Epoch 795/1000
1623 - 1s - Loss: 37412.1067 - mean_squared_error: 37412.1067 - val_loss: 46134.1507 -
     val_mean_squared_error: 46134.1507
1624 Epoch 796/1000
1625 - 1s - Loss: 37418.2708 - mean_squared_error: 37418.2708 - val_loss: 46170.8208 -
     val_mean_squared_error: 46170.8208
1626 Epoch 797/1000
1627 - 1s - loss: 37494.4947 - mean_squared_error: 37494.4947 - val_loss: 46513.8320 -
      val_mean_squared_error: 46513.8320
1628 Epoch 798/1000
      - 1s - Loss: 37423.6219 - mean_squared_error: 37423.6219 - val_loss: 45376.7686 -
      val_mean_squared_error: 45376.7686
1630 Epoch 799/1000
1631 - 1s - Loss: 37388.5737 - mean_squared_error: 37388.5737 - val_loss: 45547.2637 -
     val_mean_squared_error: 45547.2637
1632 Epoch 800/1000
1633 - 1s - Loss: 37403.6104 - mean_squared_error: 37403.6104 - val_Loss: 45736.8229 -
     val_mean_squared_error: 45736.8229
```

1634 Epoch 801/1000

```
File - run (1)
      - 1s - loss: 37409.6965 - mean_squared_error: 37409.6965 - val_loss: 45992.6473 -
      val_mean_squared_error: 45992.6473
1636 Epoch 802/1000
1637
      - 1s - Loss: 37418.2464 - mean_squared_error: 37418.2464 - val_Loss: 46093.8366 -
     val_mean_squared_error: 46093.8366
1638 Epoch 803/1000
      - 1s - loss: 37453.5020 - mean_squared_error: 37453.5020 - val_loss: 47167.9840 -
1639
     val_mean_squared_error: 47167.9840
1640 Epoch 804/1000
      - 1s - loss: 37438.9139 - mean_squared_error: 37438.9139 - val_loss: 46888.4446 -
     val_mean_squared_error: 46888.4446
1642 Epoch 805/1000
1643 - 1s - Loss: 37416.6956 - mean_squared_error: 37416.6956 - val_loss: 46601.7718 -
     val_mean_squared_error: 46601.7718
1644 Epoch 806/1000
1645 - 1s - Loss: 37427.2814 - mean_squared_error: 37427.2814 - val_loss: 46091.0981 -
     val_mean_squared_error: 46091.0981
1646 Epoch 807/1000
      - 1s - loss: 37412.6881 - mean_squared_error: 37412.6881 - val_loss: 45944.1972 -
1647
      val_mean_squared_error: 45944.1972
1648 Epoch 808/1000
      - 1s - loss: 37410.9688 - mean_squared_error: 37410.9688 - val_loss: 45892.7001 -
     val_mean_squared_error: 45892.7001
1650 Epoch 809/1000
1651 - 1s - Loss: 37414.5894 - mean_squared_error: 37414.5894 - val_loss: 45870.9922 -
     val_mean_squared_error: 45870.9922
1652 Epoch 810/1000
1653 - 1s - Loss: 37408.3075 - mean_squared_error: 37408.3075 - val_loss: 44966.9520 -
     val_mean_squared_error: 44966.9520
1654 Epoch 811/1000
1655 - 1s - Loss: 37385.2476 - mean_squared_error: 37385.2476 - val_Loss: 45301.2108 -
     val_mean_squared_error: 45301.2108
1656 Epoch 812/1000
1657 - 1s - loss: 37392.6385 - mean_squared_error: 37392.6385 - val_loss: 45665.9428 -
     val_mean_squared_error: 45665.9428
1658 Epoch 813/1000
      - 1s - loss: 37404.3527 - mean_squared_error: 37404.3527 - val_loss: 45783.9978 -
     val_mean_squared_error: 45783.9978
1660 Epoch 814/1000
      - 1s - loss: 37408.1691 - mean_squared_error: 37408.1691 - val_loss: 45879.6198 -
1661
     val_mean_squared_error: 45879.6198
1662 Epoch 815/1000
1663 - 1s - Loss: 37413.1954 - mean_squared_error: 37413.1954 - val_Loss: 45925.6264 -
     val_mean_squared_error: 45925.6264
1664 Epoch 816/1000
1665 - 1s - Loss: 37415.1547 - mean_squared_error: 37415.1547 - val_loss: 46003.8058 -
     val mean squared error: 46003.8058
1666 Epoch 817/1000
1667 - 1s - loss: 37448.6575 - mean_squared_error: 37448.6575 - val_loss: 46931.4112 -
     val_mean_squared_error: 46931.4112
1668 Epoch 818/1000
      - 1s - loss: 37431.3877 - mean_squared_error: 37431.3877 - val_loss: 46750.8487 -
1669
      val_mean_squared_error: 46750.8487
1670 Epoch 819/1000
1671 - 1s - loss: 37412.6405 - mean_squared_error: 37412.6405 - val_loss: 46402.1438 -
     val_mean_squared_error: 46402.1438
1672 Epoch 820/1000
1673 - 1s - Loss: 37420.7925 - mean_squared_error: 37420.7925 - val_Loss: 45971.6122 -
     val_mean_squared_error: 45971.6122
1674 Epoch 821/1000
```

1675 - 1s - Loss: 37410.5543 - mean_squared_error: 37410.5543 - val_loss: 45876.9389 -

```
File - run (1)
1675 val_mean_squared_error: 45876.9389
1676 Epoch 822/1000
1677 - 1s - Loss: 37410.3648 - mean_squared_error: 37410.3648 - val_loss: 45826.9135 -
     val_mean_squared_error: 45826.9135
1678 Epoch 823/1000
      - 1s - loss: 37408.3824 - mean_squared_error: 37408.3824 - val_loss: 44858.7386 -
     val_mean_squared_error: 44858.7386
1680 Epoch 824/1000
      - 1s - loss: 37378.5349 - mean_squared_error: 37378.5349 - val_loss: 45237.8188 -
     val_mean_squared_error: 45237.8188
1682 Epoch 825/1000
1683 - 1s - Loss: 37391.2502 - mean_squared_error: 37391.2502 - val_Loss: 45548.1059 -
     val_mean_squared_error: 45548.1059
1684 Epoch 826/1000
1685 - 1s - Loss: 37400.7171 - mean_squared_error: 37400.7171 - val_loss: 45714.8617 -
     val_mean_squared_error: 45714.8617
1686 Epoch 827/1000
1687 - 1s - Loss: 37406.2881 - mean_squared_error: 37406.2881 - val_Loss: 45814.1357 -
      val_mean_squared_error: 45814.1357
1688 Epoch 828/1000
      - 1s - Loss: 37410.1901 - mean_squared_error: 37410.1901 - val_loss: 45877.8955 -
1689
     val_mean_squared_error: 45877.8955
1690 Epoch 829/1000
1691 - 1s - Loss: 37413.0857 - mean_squared_error: 37413.0857 - val_loss: 45919.1525 -
     val_mean_squared_error: 45919.1525
1692 Epoch 830/1000
1693 - 1s - Loss: 37415.3083 - mean_squared_error: 37415.3083 - val_Loss: 45946.1090 -
     val_mean_squared_error: 45946.1090
1694 Epoch 831/1000
1695 - 1s - Loss: 37447.5881 - mean_squared_error: 37447.5881 - val_loss: 46879.6795 -
     val_mean_squared_error: 46879.6795
1696 Epoch 832/1000
1697 - 1s - loss: 37430.9498 - mean_squared_error: 37430.9498 - val_loss: 46657.4900 -
     val_mean_squared_error: 46657.4900
1698 Epoch 833/1000
      - 1s - loss: 37410.0222 - mean_squared_error: 37410.0222 - val_loss: 46267.6108 -
1699
     val_mean_squared_error: 46267.6108
1700 Epoch 834/1000
      - 1s - loss: 37419.8337 - mean_squared_error: 37419.8337 - val_loss: 45918.9684 -
     val_mean_squared_error: 45918.9684
1702 Epoch 835/1000
1703
      - 1s - loss: 37407.4596 - mean_squared_error: 37407.4596 - val_loss: 44838.6516 -
     val_mean_squared_error: 44838.6516
1704 Epoch 836/1000
1705 - 1s - Loss: 37376.7882 - mean_squared_error: 37376.7882 - val_Loss: 45216.1275 -
     val_mean_squared_error: 45216.1275
1706 Epoch 837/1000
1707 - 1s - loss: 37387.4782 - mean_squared_error: 37387.4782 - val_loss: 45528.5297 -
     val_mean_squared_error: 45528.5297
1708 Epoch 838/1000
      - 1s - Loss: 37397.4758 - mean_squared_error: 37397.4758 - val_loss: 45683.5908 -
     val_mean_squared_error: 45683.5908
1710 Epoch 839/1000
      - 1s - Loss: 37402.9585 - mean_squared_error: 37402.9585 - val_loss: 45782.7137 -
     val_mean_squared_error: 45782.7137
1712 Epoch 840/1000
1713 - 1s - Loss: 37407.1326 - mean_squared_error: 37407.1326 - val_loss: 45845.3055 -
     val_mean_squared_error: 45845.3055
1714 Epoch 841/1000
1715 - 1s - Loss: 37410.2363 - mean_squared_error: 37410.2363 - val_loss: 45886.6641 -
     val_mean_squared_error: 45886.6641
```

```
File - run (1)
1716 Epoch 842/1000
      - 1s - loss: 37412.6697 - mean_squared_error: 37412.6697 - val_loss: 45934.1918 -
      val_mean_squared_error: 45934.1918
1718 Epoch 843/1000
1719
      - 1s - loss: 37445.2115 - mean_squared_error: 37445.2115 - val_loss:
     val_mean_squared_error: 46851.<u>1920</u>
1720 Epoch 844/1000
      - 1s - loss: 37428.9423 - mean_squared_error: 37428.9423 - val_loss: 46629.2344 -
     val_mean_squared_error: 46629.2344
1722 Epoch 845/1000
1723 - 1s - loss: 37407.9073 - mean_squared_error: 37407.9073 - val_loss: 46241.9623 -
     val_mean_squared_error: 46241.9623
1724 Epoch 846/1000
1725 - 1s - Loss: 37418.0877 - mean_squared_error: 37418.0877 - val_loss: 45891.3051 -
     val_mean_squared_error: 45891.3051
1726 Epoch 847/1000
1727 - 1s - loss: 37405.9767 - mean_squared_error: 37405.9767 - val_loss: 44828.0362 -
     val_mean_squared_error: 44828.0362
1728 Epoch 848/1000
1729 - 1s - Loss: 37375.2788 - mean_squared_error: 37375.2788 - val_loss: 45191.7199 -
     val_mean_squared_error: 45191.7199
1730 Epoch 849/1000
      - 1s - loss: 37385.6162 - mean_squared_error: 37385.6162 - val_loss: 45498.1347 -
     val_mean_squared_error: 45498.1347
1732 Epoch 850/1000
1733 - 1s - Loss: 37395.5055 - mean_squared_error: 37395.5055 - val_loss: 45652.5311 -
     val_mean_squared_error: 45652.5311
1734 Epoch 851/1000
1735 - 1s - loss: 37401.3900 - mean_squared_error: 37401.3900 - val_loss: 45755.3585 -
     val_mean_squared_error: 45755.3585
1736 Epoch 852/1000
1737 - 1s - loss: 37405.3143 - mean_squared_error: 37405.3143 - val_loss: 45819.7100 -
     val_mean_squared_error: 45819.7100
1738 Epoch 853/1000
      - 1s - loss: 37408.7305 - mean_squared_error: 37408.7305 - val_loss: 45880.2475 -
1739
     val_mean_squared_error: 45880.2475
1740 Epoch 854/1000
      - 1s - loss: 37411.4865 - mean_squared_error: 37411.4865 - val_loss: 45912.2110 -
     val_mean_squared_error: 45912.2110
1742 Epoch 855/1000
1743 - 1s - Loss: 37413.3330 - mean_squared_error: 37413.3330 - val_Loss: 45929.8932 -
     val_mean_squared_error: 45929.8932
1744 Epoch 856/1000
1745 - 1s - loss: 37445.0294 - mean_squared_error: 37445.0294 - val_loss: 46837.7190 -
     val_mean_squared_error: 46837.7190
1746 Epoch 857/1000
1747 - 1s - loss: 37428.5942 - mean_squared_error: 37428.5942 - val_loss: 46617.0608 -
     val_mean_squared_error: 46617.0608
1748 Epoch 858/1000
1749 - 1s - loss: 37408.4076 - mean_squared_error: 37408.4076 - val_loss: 46247.2941 -
     val_mean_squared_error: 46247.2941
1750 Epoch 859/1000
      - 1s - Loss: 37418.4672 - mean_squared_error: 37418.4672 - val_loss: 45836.1158 -
     val_mean_squared_error: 45836.1158
1752 Epoch 860/1000
1753 - 1s - loss: 37404.4950 - mean_squared_error: 37404.4950 - val_loss: 44794.4201 -
     val_mean_squared_error: 44794.4201
1754 Epoch 861/1000
1755 - 1s - loss: 37377.3845 - mean_squared_error: 37377.3845 - val_loss: 46064.0797 -
     val_mean_squared_error: 46064.0797
1756 Epoch 862/1000
```

```
File - run (1)
      - 1s - loss: 37414.8800 - mean_squared_error: 37414.8800 - val_loss: 45869.8526 -
      val_mean_squared_error: 45869.8526
1758 Epoch 863/1000
      - 1s - loss: 37410.8325 - mean_squared_error: 37410.8325 - val_loss: 45709.7217 -
1759
     val_mean_squared_error: 45709.7217
1760 Epoch 864/1000
      - 1s - loss: 37408.2562 - mean_squared_error: 37408.2562 - val_loss: 45658.7967 -
1761
     val_mean_squared_error: 45658.7967
1762 Epoch 865/1000
1763 - 1s - Loss: 37404.9612 - mean_squared_error: 37404.9612 - val_loss: 44656.3479 -
     val_mean_squared_error: 44656.3479
1764 Epoch 866/1000
1765 - 1s - Loss: 37374.4408 - mean_squared_error: 37374.4408 - val_loss: 45084.6234 -
     val mean squared error: 45084.6234
1766 Epoch 867/1000
1767 - 1s - loss: 37385.8630 - mean_squared_error: 37385.8630 - val_loss: 45410.9269 -
     val_mean_squared_error: 45410.9269
1768 Epoch 868/1000
      - 1s - loss: 37395.5391 - mean_squared_error: 37395.5391 - val_loss: 45574.9036 -
1769
      val_mean_squared_error: 45574.9036
1770 Epoch 869/1000
      - 1s - loss: 37400.8625 - mean_squared_error: 37400.8625 - val_loss: 45685.2341 -
     val_mean_squared_error: 45685.2341
1772 Epoch 870/1000
1773 - 1s - loss: 37404.9291 - mean_squared_error: 37404.9291 - val_loss: 45760.8278 -
     val_mean_squared_error: 45760.8278
1774 Epoch 871/1000
1775 - 1s - Loss: 37408.0396 - mean_squared_error: 37408.0396 - val_Loss: 45814.4903 -
     val_mean_squared_error: 45814.4903
1776 Epoch 872/1000
1777 - 1s - loss: 37416.4735 - mean_squared_error: 37416.4735 - val_loss: 46433.9773 -
     val_mean_squared_error: 46433.9773
1778 Epoch 873/1000
1779 - 1s - loss: 37424.1957 - mean_squared_error: 37424.1957 - val_loss: 45856.0057 -
     val_mean_squared_error: 45856.0057
1780 Epoch 874/1000
      - 1s - loss: 37418.7154 - mean_squared_error: 37418.7154 - val_loss: 46347.6114 -
     val_mean_squared_error: 46347.6114
1782 Epoch 875/1000
1783
      - 1s - loss: 37422.1223 - mean_squared_error: 37422.1223 - val_loss: 45850.0563 -
     val_mean_squared_error: 45850.0563
1784 Epoch 876/1000
1785 - 1s - Loss: 37419.2090 - mean_squared_error: 37419.2090 - val_Loss: 46348.8049 -
     val_mean_squared_error: 46348.8049
1786 Epoch 877/1000
1787 - 1s - Loss: 37422.3463 - mean_squared_error: 37422.3463 - val_loss: 45858.6834 -
     val mean squared error: 45858.6834
1788 Epoch 878/1000
1789 - 1s - Loss: 37419.2917 - mean_squared_error: 37419.2917 - val_Loss: 46355.0342 -
     val_mean_squared_error: 46355.0342
1790 Epoch 879/1000
      - 1s - loss: 37422.2576 - mean_squared_error: 37422.2576 - val_loss: 45863.7440 -
1791
      val_mean_squared_error: 45863.7440
1792 Epoch 880/1000
1793 - 1s - loss: 37418.9876 - mean_squared_error: 37418.9876 - val_loss: 46357.2343 -
     val_mean_squared_error: 46357.2343
1794 Epoch 881/1000
1795 - 1s - Loss: 37421.9832 - mean_squared_error: 37421.9832 - val_Loss: 45871.4593 -
     val_mean_squared_error: 45871.4593
1796 Epoch 882/1000
```

1797 - 1s - Loss: 37418.6486 - mean_squared_error: 37418.6486 - val_loss: 46358.9190 -

```
File - run (1)
1797 val_mean_squared_error: 46358.9190
1798 Epoch 883/1000
      - 1s - loss: 37421.5980 - mean_squared_error: 37421.5980 - val_loss: 45869.2949 -
1799
     val_mean_squared_error: 45869.2949
1800 Epoch 884/1000
      - 1s - loss: 37418.1568 - mean_squared_error: 37418.1568 - val_loss: 46377.9737 -
     val_mean_squared_error: 46377.9737
1802 Epoch 885/1000
      - 1s - loss: 37421.4508 - mean_squared_error: 37421.4508 - val_loss: 45871.8990 -
1803
     val_mean_squared_error: 45871.8990
1804 Epoch 886/1000
1805 - 1s - Loss: 37417.5774 - mean_squared_error: 37417.5774 - val_loss: 46382.5991 -
     val_mean_squared_error: 46382.5991
1806 Epoch 887/1000
1807 - 1s - loss: 37420.7131 - mean_squared_error: 37420.7131 - val_loss: 45872.9342 -
     val_mean_squared_error: 45872.9342
1808 Epoch 888/1000
1809 - 1s - Loss: 37417.0633 - mean_squared_error: 37417.0633 - val_Loss: 46380.2275 -
      val_mean_squared_error: 46380.2275
1810 Epoch 889/1000
      - 1s - Loss: 37420.1019 - mean_squared_error: 37420.1019 - val_loss: 45876.9901 -
      val_mean_squared_error: 45876.9901
1812 Epoch 890/1000
1813 - 1s - Loss: 37416.6821 - mean_squared_error: 37416.6821 - val_loss: 46381.3014 -
     val_mean_squared_error: 46381.3014
1814 Epoch 891/1000
1815 - 1s - Loss: 37419.6734 - mean_squared_error: 37419.6734 - val_Loss: 45877.7945 -
     val_mean_squared_error: 45877.7945
1816 Epoch 892/1000
1817 - 1s - Loss: 37416.2473 - mean_squared_error: 37416.2473 - val_Loss: 46381.8312 -
     val_mean_squared_error: 46381.8312
1818 Epoch 893/1000
1819 - 1s - Loss: 37419.1847 - mean_squared_error: 37419.1847 - val_Loss: 45879.1715 -
     val_mean_squared_error: 45879.1715
1820 Epoch 894/1000
      - 1s - loss: 37415.5774 - mean_squared_error: 37415.5774 - val_loss: 46381.8845 -
1821
     val_mean_squared_error: 46381.8845
1822 Epoch 895/1000
1823 - 1s - Loss: 37418.8212 - mean_squared_error: 37418.8212 - val_loss: 45878.7825 -
     val_mean_squared_error: 45878.7825
1824 Epoch 896/1000
1825
      - 1s - loss: 37415.1528 - mean_squared_error: 37415.1528 - val_loss: 46383.2097 -
     val_mean_squared_error: 46383.2097
1826 Epoch 897/1000
1827 - 1s - Loss: 37418.4891 - mean_squared_error: 37418.4891 - val_Loss: 45879.8542 -
     val_mean_squared_error: 45879.8542
1828 Epoch 898/1000
1829 - 1s - Loss: 37414.8159 - mean_squared_error: 37414.8159 - val_Loss: 46384.6226 -
     val_mean_squared_error: 46384.6226
1830 Epoch 899/1000
      - 1s - loss: 37418.1810 - mean_squared_error: 37418.1810 - val_loss: 45880.9542 -
1831
      val_mean_squared_error: 45880.9542
1832 Epoch 900/1000
      - 1s - Loss: 37401.5826 - mean_squared_error: 37401.5826 - val_Loss: 44898.3910 -
     val_mean_squared_error: 44898.3910
1834 Epoch 901/1000
1835 - 1s - loss: 37533.8269 - mean_squared_error: 37533.8269 - val_loss: 48777.4683 -
     val_mean_squared_error: 48777.4683
1836 Epoch 902/1000
1837 - 1s - Loss: 37483.6066 - mean_squared_error: 37483.6066 - val_loss: 46416.8535 -
     val_mean_squared_error: 46416.8535
```

```
File - run (1)
1838 Epoch 903/1000
      - 1s - loss: 37403.8028 - mean_squared_error: 37403.8028 - val_loss: 45589.1386 -
      val_mean_squared_error: 45589.1386
1840 Epoch 904/1000
      - 1s - loss: 37344.9411 - mean_squared_error: 37344.9411 - val_loss:
1841
     val_mean_squared_error: 45122.7257
1842 Epoch 905/1000
1843 - 1s - Loss: 37373.3737 - mean_squared_error: 37373.3737 - val_Loss: 45083.6086 -
     val_mean_squared_error: 45083.6086
1844 Epoch 906/1000
1845 - 1s - Loss: 37343.3347 - mean_squared_error: 37343.3347 - val_loss: 45875.4375 -
     val_mean_squared_error: 45875.4375
1846 Epoch 907/1000
1847 - 1s - loss: 37397.8843 - mean_squared_error: 37397.8843 - val_loss: 45783.9722 -
     val_mean_squared_error: 45783.9722
1848 Epoch 908/1000
      - 1s - loss: 37371.4721 - mean_squared_error: 37371.4721 - val_loss: 46308.2188 -
     val_mean_squared_error: 46308.2188
1850 Epoch 909/1000
      - 1s - Loss: 37415.2436 - mean_squared_error: 37415.2436 - val_loss: 46038.9516 -
1851
      val_mean_squared_error: 46038.9516
1852 Epoch 910/1000
      - 1s - loss: 37383.9746 - mean_squared_error: 37383.9746 - val_loss: 46527.6920 -
     val_mean_squared_error: 46527.6920
1854 Epoch 911/1000
1855 - 1s - loss: 37423.9477 - mean_squared_error: 37423.9477 - val_loss: 46198.9931 -
     val_mean_squared_error: 46198.9931
1856 Epoch 912/1000
1857 - 1s - Loss: 37391.3377 - mean_squared_error: 37391.3377 - val_loss: 46626.7001 -
     val_mean_squared_error: 46626.7001
1858 Epoch 913/1000
1859 - 1s - Loss: 37428.9894 - mean_squared_error: 37428.9894 - val_loss: 46266.1631 -
     val_mean_squared_error: 46266.1631
1860 Epoch 914/1000
      - 1s - loss: 37394.5546 - mean_squared_error: 37394.5546 - val_loss: 46663.7271 -
1861
      val_mean_squared_error: 46663.7271
1862 Epoch 915/1000
      - 1s - loss: 37431.5882 - mean_squared_error: 37431.5882 - val_loss:
     val_mean_squared_error: 46288.6531
1864 Epoch 916/1000
1865 - 1s - Loss: 37394.4028 - mean_squared_error: 37394.4028 - val_loss: 46679.0308 -
     val_mean_squared_error: 46679.0308
1866 Epoch 917/1000
1867 - 1s - loss: 37433.0766 - mean_squared_error: 37433.0766 - val_loss: 46313.3751 -
     val_mean_squared_error: 46313.3751
1868 Epoch 918/1000
1869 - 1s - loss: 37395.1872 - mean_squared_error: 37395.1872 - val_loss: 46676.8763 -
     val_mean_squared_error: 46676.8763
1870 Epoch 919/1000
1871 - 1s - loss: 37433.9372 - mean_squared_error: 37433.9372 - val_loss: 46306.4609 -
      val_mean_squared_error: 46306.4609
1872 Epoch 920/1000
      - 1s - Loss: 37426.3991 - mean_squared_error: 37426.3991 - val_loss: 44748.2670 -
      val_mean_squared_error: 44748.2670
1874 Epoch 921/1000
1875 - 1s - Loss: 37508.2087 - mean_squared_error: 37508.2087 - val_loss: 48804.8006 -
     val_mean_squared_error: 48804.8006
1876 Epoch 922/1000
1877 - 1s - loss: 37523.9174 - mean_squared_error: 37523.9174 - val_loss: 45754.5283 -
     val_mean_squared_error: 45754.5283
1878 Epoch 923/1000
```

```
File - run (1)
      - 1s - loss: 37425.1183 - mean_squared_error: 37425.1183 - val_loss: 44969.6850 -
      val_mean_squared_error: 44969.6850
1880 Epoch 924/1000
      - 1s - loss: 37350.3101 - mean_squared_error: 37350.3101 - val_loss: 44901.8733 -
1881
     val_mean_squared_error: 44901.8733
1882 Epoch 925/1000
      - 1s - loss: 37380.1963 - mean_squared_error: 37380.1963 - val_loss: 45228.8727 -
1883
     val_mean_squared_error: 45228.8727
1884 Epoch 926/1000
      - 1s - loss: 37357.6380 - mean_squared_error: 37357.6380 - val_loss: 45498.8571 -
     val_mean_squared_error: 45498.8571
1886 Epoch 927/1000
1887 - 1s - Loss: 37399.4312 - mean_squared_error: 37399.4312 - val_loss: 45896.2107 -
     val mean squared error: 45896.2107
1888 Epoch 928/1000
1889 - 1s - Loss: 37394.6859 - mean_squared_error: 37394.6859 - val_loss: 45192.1408 -
     val_mean_squared_error: 45192.1408
1890 Epoch 929/1000
      - 1s - loss: 37355.8584 - mean_squared_error: 37355.8584 - val_loss: 46057.1865 -
1891
      val_mean_squared_error: 46057.1865
1892 Epoch 930/1000
      - 1s - loss: 37386.3019 - mean_squared_error: 37386.3019 - val_loss: 46435.4908 -
     val_mean_squared_error: 46435.4908
1894 Epoch 931/1000
1895 - 1s - loss: 37399.6869 - mean_squared_error: 37399.6869 - val_loss: 46594.0623 -
     val_mean_squared_error: 46594.0623
1896 Epoch 932/1000
1897 - 1s - Loss: 37429.4559 - mean_squared_error: 37429.4559 - val_loss: 47168.9035 -
     val_mean_squared_error: 47168.9035
1898 Epoch 933/1000
1899 - 1s - loss: 37404.5212 - mean_squared_error: 37404.5212 - val_loss: 46936.8691 -
     val_mean_squared_error: 46936.8691
1900 Epoch 934/1000
1901 - 1s - loss: 37397.6945 - mean_squared_error: 37397.6945 - val_loss: 46917.3393 -
     val_mean_squared_error: 46917.3393
1902 Epoch 935/1000
      - 1s - loss: 37405.9229 - mean_squared_error: 37405.9229 - val_loss: 46735.6418 -
1903
     val_mean_squared_error: 46735.6418
1904 Epoch 936/1000
1905
      - 1s - loss: 37456.6001 - mean_squared_error: 37456.6001 - val_loss: 47214.1733 -
     val_mean_squared_error: 47214.1733
1906 Epoch 937/1000
1907 - 1s - loss: 37410.4007 - mean_squared_error: 37410.4007 - val_loss: 45660.2801 -
     val_mean_squared_error: 45660.2801
1908 Epoch 938/1000
1909 - 1s - Loss: 37421.0605 - mean_squared_error: 37421.0605 - val_loss: 46823.1812 -
     val mean squared error: 46823.1812
1910 Epoch 939/1000
1911 - 1s - loss: 37401.5006 - mean_squared_error: 37401.5006 - val_loss: 45847.7223 -
     val_mean_squared_error: 45847.7223
1912 Epoch 940/1000
      - 1s - loss: 37369.9369 - mean_squared_error: 37369.9369 - val_loss: 46208.3328 -
1913
      val_mean_squared_error: 46208.3328
1914 Epoch 941/1000
1915 - 1s - loss: 37390.8095 - mean_squared_error: 37390.8095 - val_loss: 46329.1397 -
     val_mean_squared_error: 46329.1397
1916 Epoch 942/1000
1917 - 1s - Loss: 37396.3516 - mean_squared_error: 37396.3516 - val_Loss: 46600.7639 -
     val_mean_squared_error: 46600.7639
1918 Epoch 943/1000
1919 - 1s - Loss: 37462.2761 - mean_squared_error: 37462.2761 - val_Loss: 47097.1478 -
```

```
File - run (1)
1919 val_mean_squared_error: 47097.1478
1920 Epoch 944/1000
      - 1s - loss: 37432.7101 - mean_squared_error: 37432.7101 - val_loss: 45380.1565 -
     val_mean_squared_error: 45380.1565
1922 Epoch 945/1000
      - 1s - loss: 37363.2708 - mean_squared_error: 37363.2708 - val_loss: 46585.3977 -
     val_mean_squared_error: 46585.3977
1924 Epoch 946/1000
      - 1s - loss: 37401.2349 - mean_squared_error: 37401.2349 - val_loss: 46379.5079 -
     val_mean_squared_error: 46379.5079
1926 Epoch 947/1000
1927 - 1s - loss: 37400.2246 - mean_squared_error: 37400.2246 - val_loss: 46455.6625 -
     val_mean_squared_error: 46455.6625
1928 Epoch 948/1000
1929 - 1s - Loss: 37403.7647 - mean_squared_error: 37403.7647 - val_loss: 46654.4298 -
     val_mean_squared_error: 46654.4298
1930 Epoch 949/1000
1931 - 1s - loss: 37466.7267 - mean_squared_error: 37466.7267 - val_loss: 47118.6961 -
      val_mean_squared_error: 47118.6961
1932 Epoch 950/1000
      - 1s - Loss: 37437.7019 - mean_squared_error: 37437.7019 - val_loss: 45364.0714 -
      val_mean_squared_error: 45364.0714
1934 Epoch 951/1000
1935 - 1s - loss: 37365.6797 - mean_squared_error: 37365.6797 - val_loss: 46559.1490 -
     val_mean_squared_error: 46559.1490
1936 Epoch 952/1000
1937 - 1s - Loss: 37403.1921 - mean_squared_error: 37403.1921 - val_Loss: 46378.9229 -
     val_mean_squared_error: 46378.9229
1938 Epoch 953/1000
1939 - 1s - Loss: 37402.4864 - mean_squared_error: 37402.4864 - val_loss: 46451.0091 -
     val_mean_squared_error: 46451.0091
1940 Epoch 954/1000
1941 - 1s - loss: 37405.3576 - mean_squared_error: 37405.3576 - val_loss: 46624.8315 -
     val_mean_squared_error: 46624.8315
1942 Epoch 955/1000
      - 1s - Loss: 37468.6510 - mean_squared_error: 37468.6510 - val_loss: 47078.7889 -
1943
     val_mean_squared_error: 47078.7889
1944 Epoch 956/1000
      - 1s - loss: 37438.6243 - mean_squared_error: 37438.6243 - val_loss: 45322.3838 -
     val_mean_squared_error: 45322.3838
1946 Epoch 957/1000
      - 1s - loss: 37366.1125 - mean_squared_error: 37366.1125 - val_loss: 46534.2704 -
     val_mean_squared_error: 46534.2704
1948 Epoch 958/1000
1949 - 1s - Loss: 37462.7286 - mean_squared_error: 37462.7286 - val_Loss: 46713.3568 -
     val_mean_squared_error: 46713.3568
1950 Epoch 959/1000
1951 - 1s - Loss: 37410.0663 - mean_squared_error: 37410.0663 - val_loss: 45737.6060 -
     val_mean_squared_error: 45737.6060
1952 Epoch 960/1000
      - 1s - loss: 37376.4158 - mean_squared_error: 37376.4158 - val_loss: 46152.4881 -
     val_mean_squared_error: 46152.4881
1954 Epoch 961/1000
      - 1s - loss: 37397.9477 - mean_squared_error: 37397.9477 - val_loss: 46273.5004 -
     val_mean_squared_error: 46273.5004
1956 Epoch 962/1000
1957 - 1s - Loss: 37401.2156 - mean_squared_error: 37401.2156 - val_Loss: 46561.5318 -
     val_mean_squared_error: 46561.5318
1958 Epoch 963/1000
1959 - 1s - loss: 37410.6050 - mean_squared_error: 37410.6050 - val_loss: 46624.4080 -
     val_mean_squared_error: 46624.4080
```

```
File - run (1)
1960 Epoch 964/1000
      - 1s - loss: 37413.2500 - mean_squared_error: 37413.2500 - val_loss: 46649.0411 -
      val_mean_squared_error: 46649.0411
1962 Epoch 965/1000
      - 1s - loss: 37436.2482 - mean_squared_error: 37436.2482 - val_loss:
1963
     val_mean_squared_error: 47682.<u>3310</u>
1964 Epoch 966/1000
      - 1s - Loss: 37451.7750 - mean_squared_error: 37451.7750 - val_Loss: 47146.0656 -
     val_mean_squared_error: 47146.0656
1966 Epoch 967/1000
1967 - 1s - Loss: 37433.4319 - mean_squared_error: 37433.4319 - val_Loss: 46721.9533 -
     val_mean_squared_error: 46721.9533
1968 Epoch 968/1000
1969 - 1s - Loss: 37420.6401 - mean_squared_error: 37420.6401 - val_loss: 46544.8571 -
     val_mean_squared_error: 46544.8571
1970 Epoch 969/1000
      - 1s - loss: 37416.0857 - mean_squared_error: 37416.0857 - val_loss: 46438.3820 -
     val_mean_squared_error: 46438.3820
1972 Epoch 970/1000
1973 - 1s - Loss: 37413.2105 - mean_squared_error: 37413.2105 - val_loss: 46374.5459 -
      val_mean_squared_error: 46374.5459
1974 Epoch 971/1000
      - 1s - loss: 37403.8660 - mean_squared_error: 37403.8660 - val_loss: 45321.9382 -
     val_mean_squared_error: 45321.9382
1976 Epoch 972/1000
1977 - 1s - loss: 37373.3366 - mean_squared_error: 37373.3366 - val_loss: 45799.1298 -
     val_mean_squared_error: 45799.1298
1978 Epoch 973/1000
1979 - 1s - Loss: 37389.4553 - mean_squared_error: 37389.4553 - val_loss: 46124.1003 -
     val_mean_squared_error: 46124.1003
1980 Epoch 974/1000
1981 - 1s - loss: 37399.9359 - mean_squared_error: 37399.9359 - val_loss: 46270.3429 -
     val_mean_squared_error: 46270.3429
1982 Epoch 975/1000
      - 1s - loss: 37405.0601 - mean_squared_error: 37405.0601 - val_loss: 46355.9049 -
1983
     val_mean_squared_error: 46355.9049
1984 Epoch 976/1000
      - 1s - loss: 37408.5989 - mean_squared_error: 37408.5989 - val_loss: 46402.7377 -
1985
     val_mean_squared_error: 46402.7377
1986 Epoch 977/1000
      - 1s - loss: 37432.1479 - mean_squared_error: 37432.1479 - val_loss: 47447.4718 -
     val_mean_squared_error: 47447.4718
1988 Epoch 978/1000
      - 1s - loss: 37450.4287 - mean_squared_error: 37450.4287 - val_loss: 46918.1309 -
     val_mean_squared_error: 46918.1309
1990 Epoch 979/1000
1991 - 1s - loss: 37431.9536 - mean_squared_error: 37431.9536 - val_loss: 46513.8126 -
     val_mean_squared_error: 46513.8126
1992 Epoch 980/1000
1993 - 1s - loss: 37420.4311 - mean_squared_error: 37420.4311 - val_loss: 46334.4921 -
     val_mean_squared_error: 46334.4921
1994 Epoch 981/1000
      - 1s - loss: 37416.0637 - mean_squared_error: 37416.0637 - val_loss: 46236.2702 -
     val_mean_squared_error: 46236.2702
1996 Epoch 982/1000
1997 - 1s - Loss: 37408.3614 - mean_squared_error: 37408.3614 - val_loss: 45155.2246 -
     val_mean_squared_error: 45155.2246
1998 Epoch 983/1000
1999 - 1s - Loss: 37415.4826 - mean_squared_error: 37415.4826 - val_Loss: 46566.9877 -
     val_mean_squared_error: 46566.9877
2000 Epoch 984/1000
```

```
File - run (1)
      - 1s - loss: 37421.7489 - mean_squared_error: 37421.7489 - val_loss: 45136.6111 -
     val_mean_squared_error: 45136.6111
2002 Epoch 985/1000
      - 1s - loss: 37417.8349 - mean_squared_error: 37417.8349 - val_loss: 46572.1001
2003
     val_mean_squared_error: 46572.1001
2004 Epoch 986/1000
      - 1s - loss: 37429.4369 - mean_squared_error: 37429.4369 - val_loss: 46031.6210 -
2005
     val_mean_squared_error: 46031.6210
2006 Epoch 987/1000
2007 - 1s - Loss: 37494.9012 - mean_squared_error: 37494.9012 - val_Loss: 45280.0255 -
     val_mean_squared_error: 45280.0255
2008 Epoch 988/1000
2009 - 1s - Loss: 37425.9662 - mean_squared_error: 37425.9662 - val_loss: 44581.9937 -
     val_mean_squared_error: 44581.9937
2010 Epoch 989/1000
2011 - 1s - Loss: 37389.1306 - mean_squared_error: 37389.1306 - val_loss: 45525.7325 -
     val_mean_squared_error: 45525.7325
2012 Epoch 990/1000
2013 - 1s - loss: 37425.6426 - mean_squared_error: 37425.6426 - val_loss: 45579.7251 -
     val_mean_squared_error: 45579.7251
2014 Epoch 991/1000
      - 1s - loss: 37398.4052 - mean_squared_error: 37398.4052 - val_loss: 45095.4384 -
     val_mean_squared_error: 45095.4384
2016 Epoch 992/1000
2017 - 1s - loss: 37418.9166 - mean_squared_error: 37418.9166 - val_loss: 46060.1525 -
     val_mean_squared_error: 46060.1525
2018 Epoch 993/1000
2019 - 1s - Loss: 37416.2698 - mean_squared_error: 37416.2698 - val_loss: 45458.5866 -
     val_mean_squared_error: 45458.5866
2020 Epoch 994/1000
2021 - 1s - loss: 37419.5069 - mean_squared_error: 37419.5069 - val_loss: 45401.7956 -
     val_mean_squared_error: 45401.7956
2022 Epoch 995/1000
2023 - 1s - Loss: 37432.5283 - mean_squared_error: 37432.5283 - val_Loss: 46191.7184 -
     val_mean_squared_error: 46191.7184
2024 Epoch 996/1000
      - 1s - loss: 37420.2779 - mean_squared_error: 37420.2779 - val_loss: 45660.2628
     val_mean_squared_error: 45660.2628
2026 Epoch 997/1000
      - 1s - loss: 37427.2799 - mean_squared_error: 37427.2799 - val_loss: 45500.3581 -
     val_mean_squared_error: 45500.3581
2028 Epoch 998/1000
2029 - 1s - Loss: 37422.3703 - mean_squared_error: 37422.3703 - val_loss: 45448.2148 -
     val_mean_squared_error: 45448.2148
2030 Epoch 999/1000
2031 - 1s - Loss: 37418.2443 - mean_squared_error: 37418.2443 - val_loss: 45600.8103 -
     val mean squared error: 45600.8103
2032 Epoch 1000/1000
2033 - 1s - Loss: 37422.4918 - mean_squared_error: 37422.4918 - val_loss: 45646.6195 -
     val_mean_squared_error: 45646.6195
2034 now date time: 2019-11-07 07:51:49.919446
2035 model/201911070751_epoch0999-val_mean_squared_error45646.62.h5 Model Saved.
2037 history.png has been saved!
2038 time use: 636.194996834s
2039
2040 Process finished with exit code 0
2041
```