Car Resales Price Prediction

Splitting Data into Independent and Dependent Variables

```
X = car_dataset.drop(['Car_Name', 'Selling_Price'], axis= 1)
Y = car_dataset['Selling_Price']

print(X)

output :

    Year Present_Price Kms_Driven Fuel_Type Seller_Type Transmission \
0    2014    5.59    27000    0    0    0
1    2013    9.54    43000    1    0    0
2    2017    9.85    6900    0    0    0
3    2011    4.15    5200    0    0
4    2014    6.87    42450    1    0
```

| 1 | 2013 | 9.54 | 43000 | 1 | 0 | 0 |
|-----|------|-------|-------|---|-------|-------|
| 2 | 2017 | 9.85 | 6900 | 0 | 0 | 0 |
| 3 | 2011 | 4.15 | 5200 | 0 | 0 | 0 |
| 4 | 2014 | 6.87 | 42450 | 1 | 0 | 0 |
| • • | | | | | • • • | • • • |
| 296 | 2016 | 11.60 | 33988 | 1 | 0 | 0 |
| 297 | 2015 | 5.90 | 60000 | 0 | 0 | 0 |
| 298 | 2009 | 11.00 | 87934 | 0 | 0 | 0 |
| 299 | 2017 | 12.50 | 9000 | 1 | 0 | 0 |
| 300 | 2016 | 5.90 | 5464 | 0 | 0 | 0 |

| | Owner | |
|-----|-------|--|
| 0 | 0 | |
| 1 | 0 | |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 0 | |
| | | |
| 296 | 0 | |
| 297 | 0 | |
| 298 | 0 | |
| 299 | 0 | |
| 300 | 0 | |
| | | |

[301 rows x 7 columns]

```
print(Y)
output :
0
        3.35
1
        4.75
2
        7.25
3
       2.85
4
       4.60
       . . .
296
       9.50
297
       4.00
298
       3.35
299
       11.50
300
        5.30
Name: Selling Price, Length: 301, dtype: float64
Spiltting the Training data and Test Data
X_train, X_test, Y_train, Y_test = train_test_split(X, Y, test_size = 0.1, random_state = 2
)
print(X train)
output :
     Year Present_Price Kms_Driven Fuel_Type Seller_Type
                                                                 Transmission
204 2015
                   4.430
                                28282
                                               0
                                                              0
249 2016
                   7.600
                                17000
                                                0
                                                              0
                                                                             0
277 2015
                   13.600
                                21780
                                                0
                                                              0
                                                                             0
194 2008
                   0.787
                                50000
                                                0
                                                              1
                                                                             0
244 2013
                    9.400
                                49000
                                                1
                                                              0
                                                                             0
     . . .
                    . . .
                                 . . .
                                               . . .
                                                            . . .
                                                                           . . .
75
     2015
                  6.800
                                36000
                                                0
                                                              0
                                                                             0
22
   2011
                   8.010
                                50000
                                                0
                                                              0
                                                                             1
72
   2013
                  18.610
                                56001
                                                0
                                                              0
                                                                            0
                                                                             0
15
     2016
                  10.790
                                43000
168 2013
                   0.730
                                12000
                                                0
                                                              1
                                                                             0
     Owner
204
       0
249
         0
277
         0
194
         0
244
         0
       . . .
75
         0
22
         0
         0
72
15
         0
168
         0
```

[270 rows x 7 columns]

Output :

| | Year | Present_Price | Kms_Driven | Fuel_Type | Seller_Type | Transmission | \ |
|-----|------|---------------|------------|-----------|-------------|--------------|---|
| 99 | 2010 | 20.450 | 50024 | 1 | 0 | 0 | |
| 161 | 2014 | 0.826 | 23000 | 0 | 1 | 0 | |
| 89 | 2014 | 6.760 | 40000 | 0 | 0 | 0 | |
| 30 | 2012 | 5.980 | 51439 | 1 | 0 | 0 | |
| 232 | 2015 | 14.790 | 12900 | 0 | 0 | 1 | |
| 290 | 2014 | 6.400 | 19000 | 0 | 0 | 0 | |
| 35 | 2011 | 7.740 | 49998 | 2 | 0 | 0 | |
| 7 | 2015 | 8.610 | 33429 | 1 | 0 | 0 | |
| 183 | 2013 | 0.470 | 21000 | 0 | 1 | 0 | |
| 13 | 2015 | 7.710 | 26000 | 0 | 0 | 0 | |
| 269 | 2015 | 10.000 | 18828 | 0 | 0 | 0 | |
| 65 | 2014 | 6.950 | 45000 | 1 | 0 | 0 | |
| 178 | 2014 | 0.520 | 19000 | 0 | 1 | 1 | |
| 258 | 2015 | 13.600 | 25000 | 0 | 0 | 0 | |
| 227 | 2011 | 4.430 | 57000 | 0 | 0 | 0 | |
| 133 | 2016 | 0.950 | 500 | 0 | 1 | 0 | |
| 130 | 2017 | 0.870 | 11000 | 0 | 1 | 0 | |
| 156 | 2017 | 0.520 | 15000 | 0 | 1 | 0 | |
| 237 | 2015 | 13.600 | 68000 | 1 | 0 | 0 | |
| 262 | 2015 | 5.800 | 40023 | 0 | 0 | 0 | |
| 112 | 2014 | 2.400 | 7000 | 0 | 1 | 0 | |
| 282 | 2014 | 14.000 | 63000 | 1 | 0 | 0 | |
| 164 | 2016 | 0.540 | 14000 | 0 | 1 | 0 | |
| 275 | 2016 | 13.600 | 30753 | 0 | 0 | 1 | |
| 154 | 2014 | 0.880 | 8000 | 0 | 1 | 0 | |
| 29 | 2015 | 10.380 | 45000 | 1 | 0 | 0 | |
| 141 | 2016 | 0.800 | 20000 | 0 | 1 | 0 | |
| 192 | 2007 | 0.750 | 49000 | 0 | 1 | 0 | |
| 216 | 2016 | 4.430 | 12500 | 0 | 0 | 0 | |
| 3 | 2011 | 4.150 | 5200 | 0 | 0 | 0 | |
| 159 | 2017 | 0.510 | 4000 | 0 | 1 | 1 | |
| | | | | | | | |

| | Owner |
|-----|-------|
| 99 | 0 |
| 161 | 0 |
| 89 | 0 |
| 30 | 0 |
| 232 | 0 |
| 290 | 0 |
| 35 | 0 |
| 7 | 0 |
| 183 | 0 |
| 13 | 0 |
| 269 | 0 |
| 65 | 0 |
| 178 | 0 |
| 258 | 0 |
| 227 | 0 |
| 133 | 0 |
| 130 | 0 |
| 156 | 0 |
| 237 | 0 |
| 262 | 0 |

```
112
        0
282
        0
164
       0
275
       0
        0
154
29
        0
141
       0
192
        1
216
        0
3
         0
159
         0
print(Y_train)
output :
204
       2.75
249
       5.25
277
     9.70
194
      0.20
244
      5.95
      . . .
75
      3.95
22
       4.40
72
       7.45
15
       7.75
168
       0.42
Name: Selling_Price, Length: 270, dtype: float64
print(Y_test)
output :
99
       9.65
161
       0.45
89
       4.75
30
       3.10
232
       11.45
290
       4.50
35
       2.95
7
       6.50
       0.27
183
13
       6.10
269
       6.70
       4.75
65
178
       0.35
258
       8.40
       2.55
227
133
       0.72
130
       0.75
156
       0.48
237
     11.25
       4.00
262
112
       1.15
282
       8.25
164
       0.45
```

275

10.90

| 154 | 0.50 |
|-----|------|
| 29 | 7.45 |
| 141 | 0.60 |
| 192 | 0.20 |
| 216 | 2.90 |
| 3 | 2.85 |
| 159 | 0.45 |

Name: Selling_Price, dtype: float64