```
null_values = df.isnull().sum()
 In [3]:
           print("Null Values in the Dataset:")
           print(null_values)
           Null Values in the Dataset:
           symboling
                                    0
           normalized-losses
                                    0
           make
                                    0
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           fuel-type
           aspiration
                                    0
           num-of-doors
           body-style
           drive-wheels
                                    0
           engine-location
                                    0
           wheel-base
                                    0
           length
                                    0
           width
                                    0
           height
                                    0
           curb-weight
                                    0
           engine-type
                                    0
           num-of-cylinders
                                    0
                                    0
           engine-size
                                    0
           fuel-system
           bore
                                    0
                                    0
           stroke
           compression-ratio
           horsepower
           peak-rpm
           city-mpg
           highway-mpg
                                    0
           price
           dtype: int64
           count_question_mark = (df['normalized-losses'] == '?').sum()
           count_question_mark
 In [5]:
 Out[5]:
           df['normalized-losses'] = pd.to_numeric(df['normalized-losses'])
           df.head()
 In [9]:
                            normalized-
                                                                                             drive-
                                                                                                                                                                                                      city-
 Out[9]:
                                                                      num-of-
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                                                                                                        engine-
                                                                                                                   wheel-
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          5 rows × 26 columns
           df['normalized-losses'].fillna(df['normalized-losses'].mean(), inplace=True)
In [11]: df.head()
                                                                                                                                                                 compression-
horsepower
                                                   fuel-
aspiration
Out[11]:
                            normalized-
                                                                                             drive-
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          5 rows × 26 columns
In [16]: def iqr(df, horsepower):
                Q1 = df[horsepower].quantile(0.25)
                Q3 = df[horsepower].quantile(0.75)
                IQR = Q3 - Q1
                lower_bound = Q1 - 1.5 * IQR
                upper_bound = Q3 + 1.5 * IQR
                outliers = df[(df[horsepower] < lower_bound) | (df[horsepower] > upper_bound)]
                clean_df = df[~((df[horsepower] < lower_bound) | (df[horsepower] > upper_bound))]
                return clean_df, outliers
In [23]:
           df.head(13)
                                                                                                         engine-
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                                                                                   body-
                                                                                              drive-
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                                                                                                                                                                  compression-
Out[23]:
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          13 rows × 26 columns
          df['horsepower'] = pd.to_numeric(df['horsepower'],errors='coerce')
In [27]:
           cleaned_df, outliers = iqr(df, 'horsepower')
In [28]:
          cleaned_df
                                                                        num-of-
                                                                                                                                                                                              peak-
                              normalized-
                                                                                    body-
                                                                                               drive-
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Out[28]:
                                                      fuel-
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          199 rows × 26 columns
```

In [1]: **import** pandas **as** pd

import numpy as np

df = pd.read_csv("D:\\IPSITA\\Automobile_data.csv")

In [29]: cleaned_df.to_csv('automobile_data_new_file.csv')