*""" Alternate program to defeat Benford in Georgia 2020"""*import pandas as pd  
  
df = pd.read\_csv(r"C:\Users\alexd\Chi Square Python\Ga\_2020\three\_way\_results\_ga\_2020.csv")  
  
""" Set up the data"""  
  
df['total\_all'] = df['t\_total\_votes'] + df['b\_total\_votes'] + df['j\_total\_votes']  
total\_votes =df['total\_all'].sum()  
print('Total votes:', total\_votes)  
  
""" determine percentage needed to win"""  
  
total\_to\_win = (total\_votes \* .51).round()  
print('Total needed to win:', total\_to\_win)  
  
votes\_to\_switch = total\_to\_win - df['t\_total\_votes'].sum()  
print('Votes to switch total:', votes\_to\_switch)  
  
""" calculate the scalar to use to switch votes proportionally"""  
  
opp\_votes = df['b\_total\_votes'].sum() + df['j\_total\_votes'].sum()  
print('Opposition total votes:', opp\_votes)  
  
scalar = 1 - (votes\_to\_switch / opp\_votes)  
print('Scalar to use: {:.3}'.format(scalar))  
  
""" use the scalar to remove votes from opponents and reset the 'new' totals"""  
  
df['from\_b'] = (df['b\_total\_votes'] \* 0.034).round()  
df['from\_j'] = (df['j\_total\_votes'] \* 0.034).round()  
  
df['new\_t\_total'] = df['t\_total\_votes'] + df['from\_b'] + df['from\_j']  
df['new\_b\_total'] = df['b\_total\_votes'] - df['from\_b']  
df['new\_j\_total'] = df['j\_total\_votes'] - df['from\_j']  
  
pd.set\_option('display.max\_columns', None)  
print(df)  
  
""" verify results"""  
  
df['total\_all\_new'] = df['new\_t\_total'] + df['new\_b\_total'] + df['new\_j\_total']  
new\_total\_votes =df['total\_all\_new'].sum()  
print('Total original votes:', total\_votes, 'Total new votes:', new\_total\_votes)  
  
df.to\_csv('2020\_Georgia\_fixed.csv', index=False)