CS6890- Fraud Analytics Using Predictive and Social Network Techniques

Benford's Law Implementation

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Objective and Theory:

The objective of the assignment is to implement the Benford's First digit Law and First two digits law implementation from the given dataset.

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1. get_first_digit and get_FirstTwo_digit functions are used to extract the digits from a Population column.

2. count_freq function calculate the frequency of [0, 9] in and [10, 99] respectively.

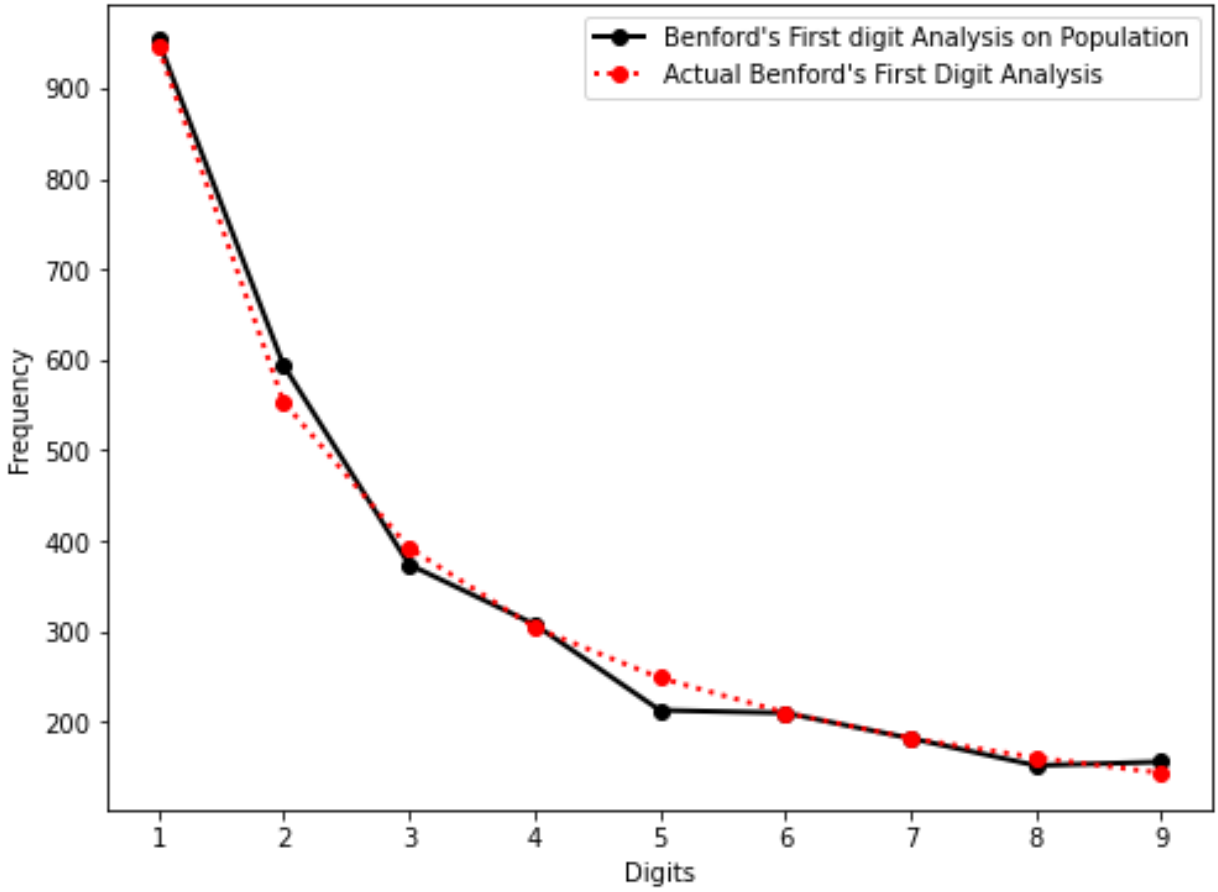
3. benford_frequency function returns the log distribution.

Results :

Benford's first digit analysis on Population column:

chi square test p value= 10.6314009212393

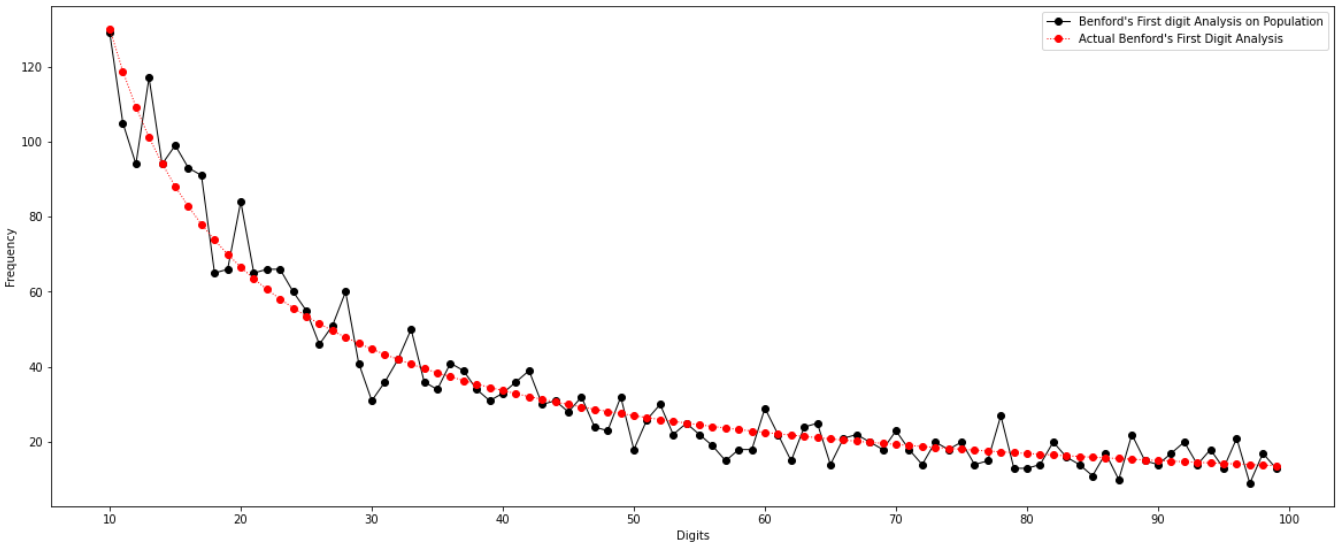
MAD= 194.14814814814815



Benford's first two digits analysis on Population column:

chi square test p value= 83.41617609082292

MAD= 19.744197530864188


Benford's First digit Analysis on Population
Actual Benford's First Digit Analysis
Frequency
Digits
120
100
80
60
40
20
10
20
30
40
50
60
70
80
90
100