**Assignment 1: The Apportionment Problem**

You are a census officer in a newly democratic nation and you have been charged with using the census data from the table below to determine how 100 congressional seats should be divided among the 10 states of the union.

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| --- | --- |
| State | Population |
| 1 | 15475 |
| 2 | 35644 |
| 3 | 98756 |
| 4 | 88346 |
| 5 | 369 |
| 6 | 85663 |
| 7 | 43427 |
| 8 | 84311 |
| 9 | 54730 |
| 10 | 25467 |

Being a fan of United States history, you are familiar with the many methods of apportionment applied to this problem to achieve fair representation in the US House of Representative. You decide that apportionment is the best approach to solving this problem, but need to compare several methods and then determine which is actually fair.

1. Using the Hamilton method of apportionment, determine the number of seats each state should receive.
2. Using the numbers you just calculated from applying the Hamilton method, determine the average constituency for each state. Explain your decision making process for allocating the remaining seats.
3. Calculate the absolute and relative unfairness of this apportionment.
4. Explain how changes in state boundaries or populations could affect the balance of representation in this congress. Provide an example using the results above.
5. How and why could an Alabama Paradox occur?
6. Explain how applying the Huntington-Hill apportionment method helps to avoid an Alabama Paradox.
7. Based upon your experience in solving this problem, do you feel apportionment is the best way to achieve fair representation? Be sure to support your answer.
8. Suggest another strategy that could be applied to achieve fair representation either using apportionment methods or a method of your choosing.

You must show some calculations in your document to demonstrate that you know how to perform these tasks. Be sure to compile your work in a Word document and submit it to the **M5: Assignment 1 Dropbox** by **Saturday, April 6, 2013**.