

## Lab 6: Chi-squared Test

### 2009 Iran Election

On June 12 2009, the Republic of Iran held an election where President Mahmoud Ahmadinejad sought re-election against three challengers. When it was announced that Ahmadinejad had won with 62% of the vote, there were widespread allegations of election fraud.

There are many methods - both quantitative and qualitative - to detect election fraud. In this lab we will explore just one proposed method

### The Data

The election commission released total vote counts for each candidate by region. Let's load up this data.<sup>1</sup>

```
download.file("http://stat.duke.edu/courses/Fall11/sta101.02/labs/nc.csv",
  destfile = "nc.csv")
```

### Benford's Law

Let's load up the nc data set.

```
download.file("http://stat.duke.edu/courses/Fall11/sta101.02/labs/nc.csv",
  destfile = "nc.csv")
```

### The Chi-squared test for goodness-of-fit

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<sup>1</sup>