

# MSIA 411: Data Visualization

## Assignment 1 — Klingons vs Romulans

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# Klingons vs Romulans – Background

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Star Date 2358.9

- the Klingons and Romulans have ended their centuries old warfare, and now live in a common society with representative democracy
  - phasers and photon torpedoes have been traded in for ballot boxes and bar charts
- the society has three co-equal houses of government (president, senate, congress)
  - each position is filled by either a Klingon (K) or a Romulan (R), as determined by popular vote
  - major laws require some degree of cooperation of all three houses
  - presidents are elected to 4 year terms. the election happens on the even numbered years that are NOT divisible by 4
  - house and senate members are elected every even numbered year
  - elections happen several months before the end of the year
  - the term starts the first month of the year following the election

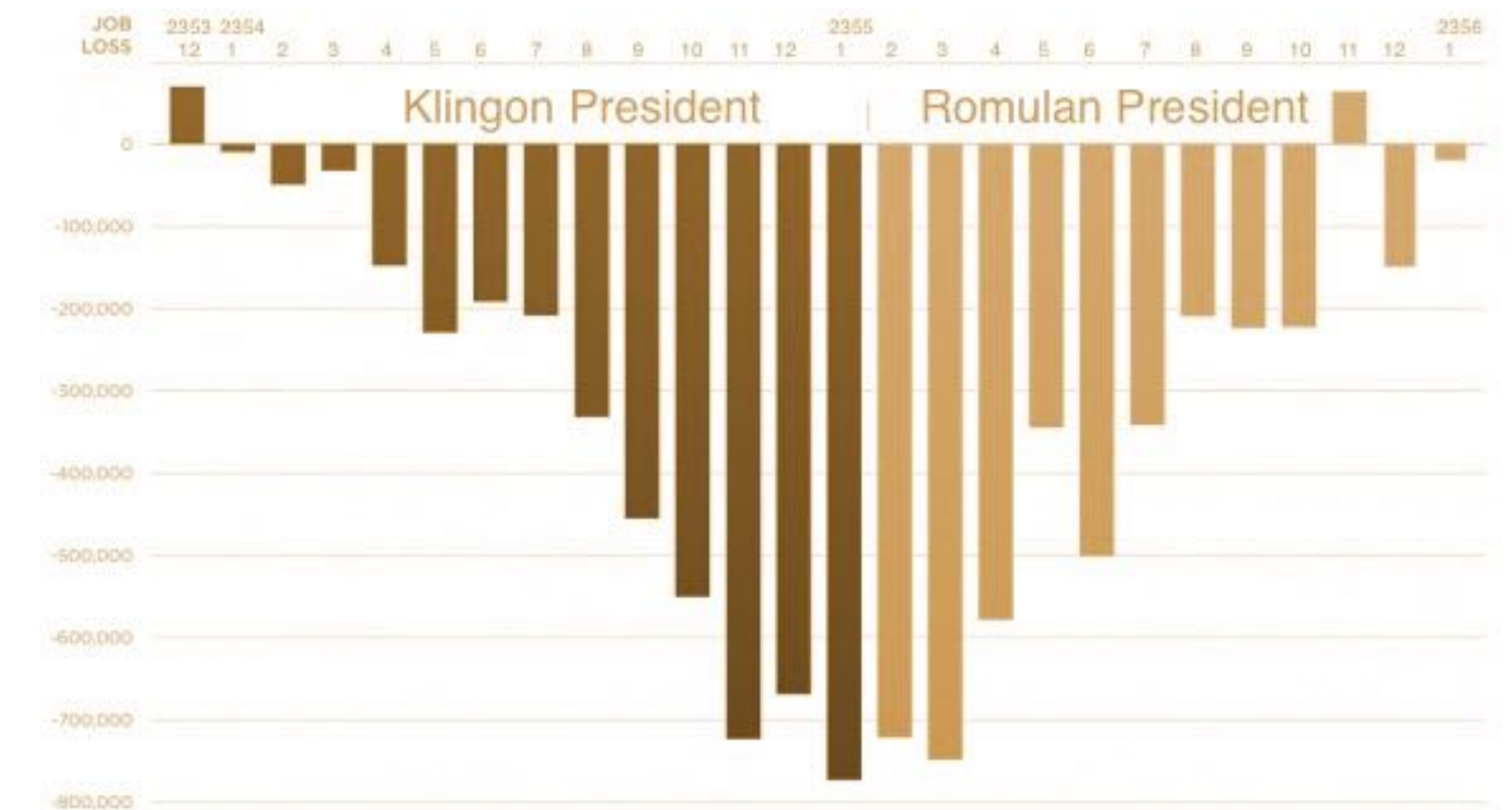
# Klingons vs Romulans – Information Warfare

The Klingons and Romulans are both using charts to advance their cause, trying to demonstrate that they are the species that is best at managing the society.

Rampant distortions of the data abound.

The people are crying out for someone to reveal the truth and expose the lies.

That someone is you.



# Your Mission

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Explore the dataset and create a slide deck presentation that describes the relation between government party control and economy (if any).

You are creating 3 views:

- a balanced and complete view that best represents the actual reality (which may lean in favor of either klingon or romulan)
- a blatantly pro-klingon view that distorts the data in their favor, without appearing to do so
- a blatantly pro-romulan view that distorts the data in their favor, without appearing to do so

You should provide just enough annotation for each view to make clear what the message is.

You may use any software tool to create the visualizations, but document your choice on the title slide of your presentation.

# SOME Questions to Consider (there are others)

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## Questions

- which is more relevant: president, senate, congress or some mix of those?
- what is the effect of looking at different time periods?
- what is the effect of looking at different levels of granularity (annual vs. monthly)?
- the government members are all elected 3 months before they actually serve, do the economy numbers track the dates of election more closely than the dates of service (i.e. is economy a leading or trailing indicator?)



# Some Additional Rules

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## Visualization Roles

- you MUST use the actual data provided. no “errors” are allowed
- standard charts can be used (bar, line, scatter), but you can use others
- you may use statistics (e.g. regression), but the visual display needs to be complete and intuitive to ordinary (non-statistician) citizens
- no bonus points will be given for “ugly” designs, you should strive for clarity vs. obscurity

## Working in Pairs

- you should work on this project with a partner
- you may select your partner yourself
- Self-sign up in the Mid-Quarter Pair groups on Canvas

# Deliverables (PDF DUE April 19 at 6:00 PM)

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Create a 5-8 page slide deck:

- Slide 1: title page with your name
- Slide 2: a set of one or more visualizations that give a accurate and convincing view of the relationship (if any) between government and economy
- Slide 3: a set of one or more visualizations that are highly skewed in favor of the Klingons
- Slide 4: a set of one or more visualizations that are highly skewed in favor of the Romulans
- Slide 5-7: additional slide providing details for your design decisions and analysis of results in slides 2-4. NOT for presentation, for reading.
- Slide 8: optional bonus slide (see next page for details)

On Slides 2, 3, 4 you should include:

- clear statement of the question you are answering
- 1 to many visualizations answering the question

# More About Deliverables

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You will present your findings in class in a short presentation, and you should plan for presenting all three of your main slides in less than 3 minutes. However due to time limitations it is possible that not every student will present, or that you may only be able to choose your best slide to discuss for 1 minute. Please prepare for all scenarios.

Your slides also need to work in “standalone” mode unaccompanied by your discussion.

## Grade Breakdown (20% of final grade):

- 4% for each visualization slide (12% total)
- 2% for each discussion slide (6% total)
- 2% for the presentation
- 2% Bonus: analyze the accuracy of the romulan propaganda bar chart in romulan-chart.jpg  
(you may use an additional slide for this)
- Grading Factors:
  - originality, effectiveness, subtlety, aesthetics
  - description of design choices and analysis of results