**Final Project Outline/Talking Points**

1. Intro – Why we chose honey bees (Sarah/All of us)
   * “Let’s Bee Informed” Slide – Bee Facts/Why they are important
     1. Why we want to analyze it – predict population loss/gain for future years – how “in trouble” are our honeybees (we may just want to say this as our ML intro)
2. Brief summary of data cleaning (All of us)
   * Where our data came from and why we chose it
     1. What we decided to analyze (Colony Info/Health Stressors/most and least productive states
   * Used Python/Jupyter Notebook, Pandas, Numpy, and Tableau for visualizations
3. Colony Data Talking Points (Camilla)
   * What our numbers mean
   * Maps Chart
   * Top 5 States for colonies
   * Bottom 5 States for Colonies
   * Any other pertinent info
4. What is affecting honeybees across regions/Health Stressors (Sarah)
   * Used sets to group by regions and why (too noisy to visualize by state - regions have similar weather patterns, environmental factors, and seasons)
   * Charts are showing percent of colonies affected by stressors anytime during the year
   * A colony may be affected by multiple stressors during the year
   * “Other” includes weather, starvation, insufficient forage, queen failure, hive damage/destroyed, etc.
   * “Parasites” include tracheal mites, nosema, hive beetle, wax moths, etc
   * Average stressors for all years across regions slide/comparison of regions/trends
   * A look at regions by year/comparison of regions/trends?
   * Anything else that comes up
5. Machine Learning (Subhra)
   * Used Jupyter Notebook, Matplotlib, Scikit
   * What we used it for – Predict honeybee population loss/gains in coming years **AKA** **when are we all going to die/when will the world end (JK 😉 although not that far off base)**
   * Synopsis of what was done with the code/screenshots of the matplotlib/used winter and spring data and why etc
   * The negative r2 value means that the chosen model fits the data poorly
   * What did we need to make a prediction (more previous years)
6. Closing/Questions