1. **FIRST IDEA**

* Child mortality rate has decreased significantly since the last century. WHO says ‘Globally, the infant mortality rate has decreased from an estimated rate of 64.8 deaths per 1000 live births in 1990 to 30.5 deaths per 1000 live births in 2016. Annual infant deaths have declined from 8.8 million in 1990 to 4.2 million in 2016.’ **Trend line showing decrease in infant mortality rate globally**
* Infant mortality rate is actually significantly different within the different income groups of countries – **Bubble graph for** **Infant mortality vs GDP/capita showing differences**
* Interesting correlation- Infant mortality vs Govt. health spending almost has a **linear relation** with a negative slope. **Bubble graph for** **Infant mortality vs Govt. Health spending per person showing differences.** Could that be the reason? Must remember **correlation does not imply causation.**
* **Very difficult**! But impressive, if we pull it off.
  + Data is always given **with respect to time** (For example infant mortality with time and GDP/capita with time). We will have to join all these data sources together taking time as the common column.
  + Another problem is that all countries need to be divided into world regions (continents) for color coding, and there is more data joining for that.
  + Maybe we could do only 2 graphs instead of 3.

1. **SECOND IDEA**
   * People in general tend to think that India and China are not taking adequate care of their population problem. However, on close examination we see the problem has already been **pretty much solved.**
   * First line chart showing huge difference in populations across the years – **Population with Time**
   * Second line chart showing that surprisingly, the **babies per woman has actually fallen at roughly the same rate** since last century – **Babies per woman with Time**
   * Third line chart – surprisingly, the population growth across the years has not been that different for China and India compared to the US – **Population growth against time**
   * So then what is the reason for this huge disparity in population? – The reason is that India and China started with a lot more people to begin with. A small percentage increment to a large number that is compounded annually leads to a huge number. (Think compound interest!)
   * This is **much easier** compared to previous idea as **no joining of data sources** required. Data sources given, just replication 3 times on 3 different data sources
   * **Not that impressive!**
2. **THIRD IDEA: Population vs population density map charts**
   * We see how population doesn’t tell us the true picture
   * Can also link it to CO2 emissions, how CO2 emissions per person are actually much less in lower income countries
   * Did something similar in class, so might be easier to implement