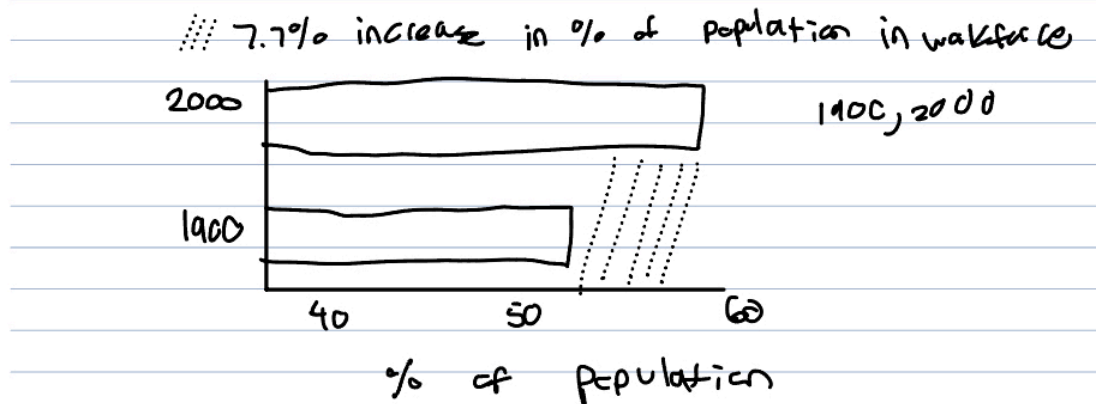
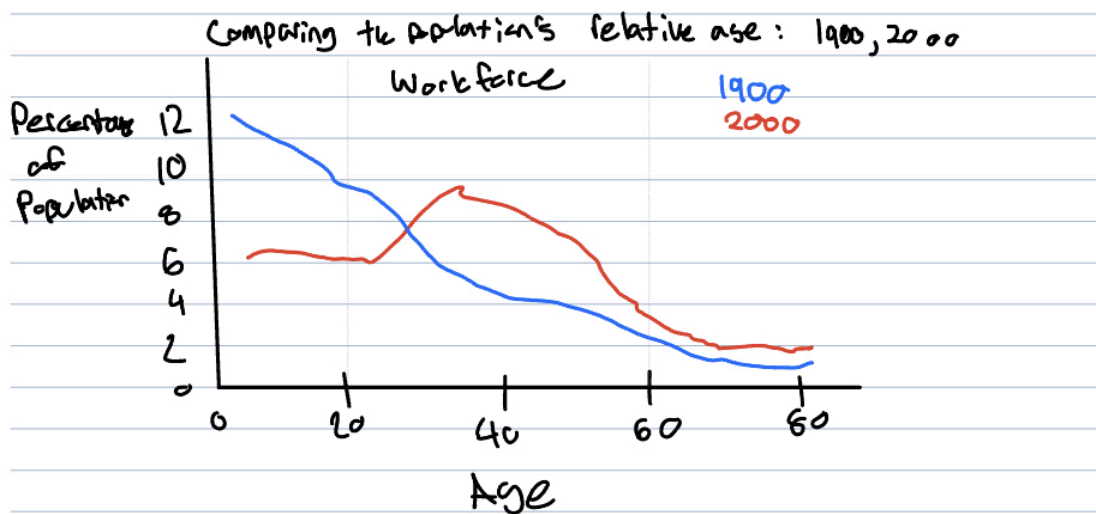
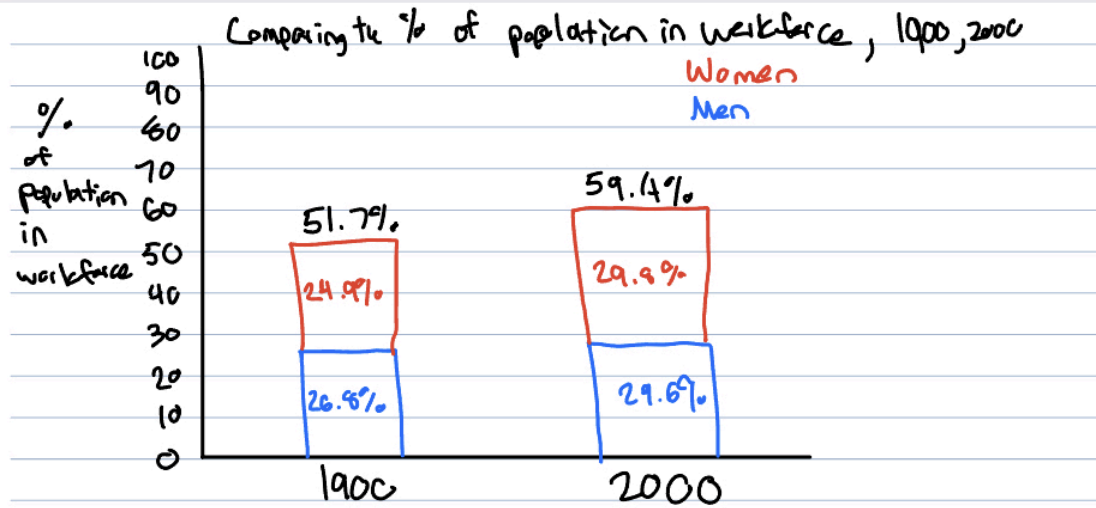


- How has the percentage of the US population in the workforce (defined here as age 20-60) changed between 1900 and 2000?



-

Note I technically used Numpy, but just to make things into percentages.

3. Reflections on each diagram

- a. I was hoping to communicate not only how the percentage of the population as a whole has changed, but also to provide insight into how this change is broken down by gender. I think it is particularly encouraging how the percentage of the population who are women in the workforce has increased between 1900 and 2000. I do not use blue/pink but instead choose blue/red which hopefully dispels some of the gender bias (although perhaps a different choice could be better in the future). Additionally, I kept the y-axis from 0-100 to not make the increase look larger than it is (by choosing a smaller y_{min}/y_{max}).
 - b. For this plot, I was interested in communicating the changing dynamics of the population and how that affects the workforce. For example, the fact that in the 1900s the population strictly decreases with age while in 2000 we get a more intuitive parabolic shape. Perhaps this focus on population dynamics detracts focus from the workforce analysis, but I tried to highlight the workforce using the dashed vertical lines. One related criticism is that it's not immediately clear if the percentage of the population in the workforce has increased or decreased between 1900 and 2000
 - c. Lastly, I wanted to make the strongest argument possible that the percentage of the population in the workforce has increased between 1900 and 2000. I did this by altering the min/max of the range to be between 40 and 60. I also made the plot an overhang and shaded the increase to make it clear. I made the legend of the overhang the title so readers immediately know how the percentage has increased. Some criticism is that changing the min/max of the range is deceptive and not a good practice for visualization. Additionally, this plot really gives no other information other than the increase (not broken down by gender/age/etc.)
4. I think the strengths of plots 1 and 2 are that they show additional information on top of just the increase in relative workforce participation, but a strength of plot 3 is that it communicates only a single idea, but very effectively. Plots 1 and 3 make it easy to compare how the relative workforce has changed (which is our primary goal), while it is considerably more difficult to understand the key question in plot 2. If I were to make this plot as part of a larger argument (e.g. a research paper with many plots and other questions to answer), I would probably show plot 3 because of its effectiveness. I could always show the other data (gendered increases, population dynamics) in separate plots to maximize their effectiveness.