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# Data Visualization Assignment 1: Sketching Visualizations

## Question:

Among male and female population whose percentage of increase is greater by how much till the age 20 on each range of group?

**Dataset:** Calculated the Male and female increase population in percentage

| | | U.S. Population (in thousands, rounded to the nearest 50,000) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1900 | | 2000 | | | |
| Age | Age Range | Male | Female | Male | Female | Male % change | Female % change |
| 0 | 0-4 | 4600 | 4600 | 9750 | 9300 | 111.96 | 102.17 |
| 5 | 5-9 | 4500 | 4400 | 10550 | 10050 | 134.44 | 128.41 |
| 10 | 10-14 | 4100 | 4000 | 10550 | 10000 | 157.32 | 150 |
| 15 | 15-19 | 3800 | 3800 | 10250 | 9700 | 169.74 | 155.26 |
| 20 | 20-24 | 3700 | 3750 | 9750 | 9300 | 163.51 | 148 |
| 25 | 25-29 | 3400 | 3250 | 9650 | 9500 | 183.82 | 192.31 |
| 30 | 30-39 | 2900 | 2650 | 10200 | 10100 | 251.72 | 281.13 |
| 35 | 35-39 | 2600 | 2350 | 11500 | 11650 | 342.31 | 395.74 |
| 40 | 40-44 | 2300 | 2000 | 11300 | 11500 | 391.3 | 475 |
| 45 | 45-49 | 1900 | 1650 | 9950 | 10250 | 423.68 | 521.21 |
| 50 | 50-59 | 1600 | 1400 | 8500 | 8900 | 431.25 | 535.71 |
| 55 | 55-59 | 1200 | 1050 | 6450 | 6900 | 437.5 | 557.14 |
| 60 | 60-69 | 900 | 900 | 5100 | 5650 | 466.67 | 527.78 |
| 65 | 65-69 | 700 | 650 | 4450 | 4800 | 535.71 | 638.46 |
| 70 | 70-74 | 500 | 450 | 3800 | 5200 | 660 | 1055.56 |
| 75 | 75-74 | 300 | 250 | 2900 | 4350 | 866.67 | 1640 |
| 80 | 80-84 | 100 | 150 | 1900 | 3200 | 1800 | 2033.33 |
| 85 | 85-89 | 0 | 50 | 950 | 2000 | Undefined | 3900 |
| 90 | 90-95 | 0 | 0 | 350 | 1050 | Undefined | Undefined |

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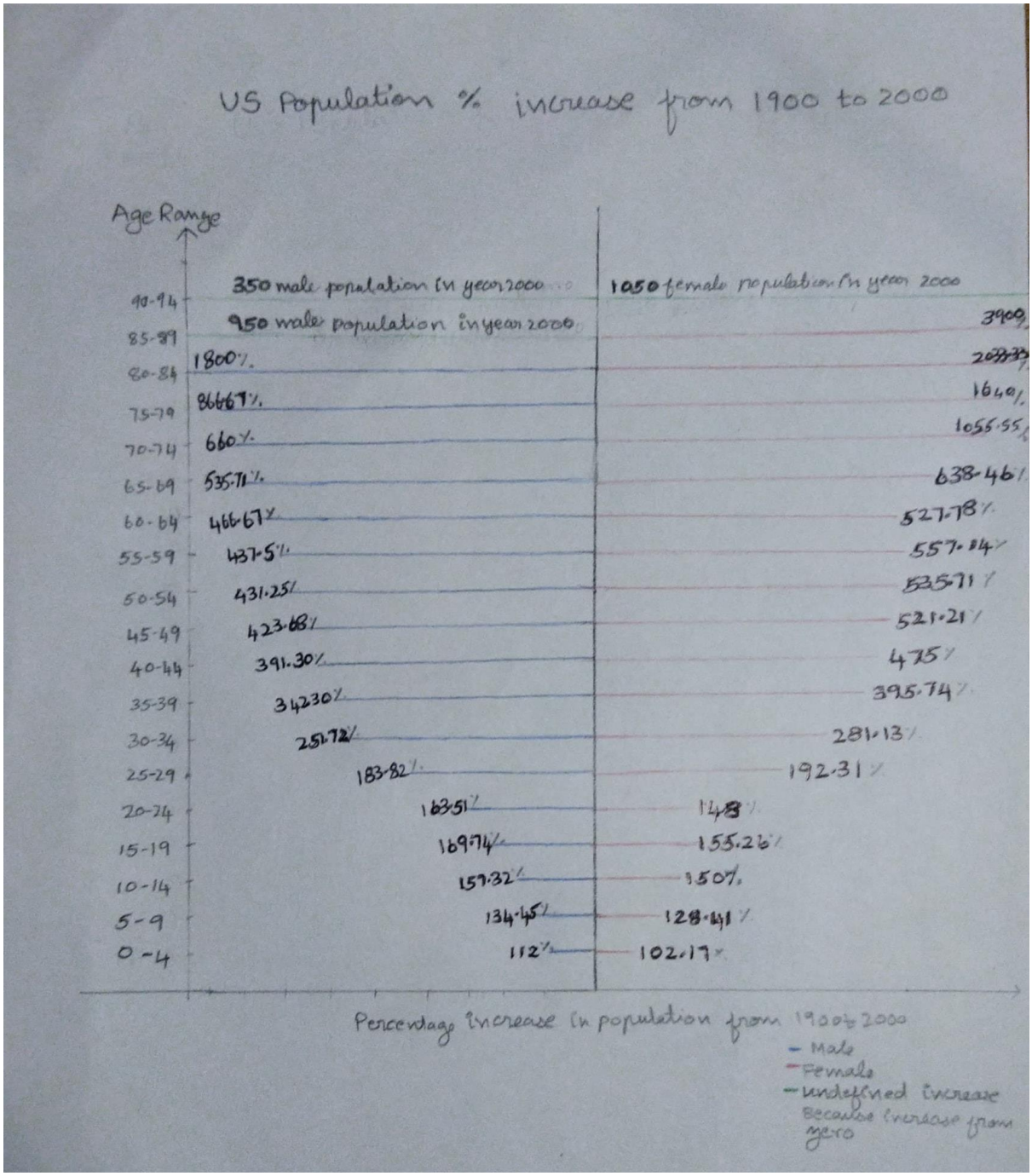
**Sketch -1 Graph**




This sketch enables to visualize the increase in population of two gender categories of different age groups. It also vividly shows that among male and female which one increased on the respective age group. I choose this sketch to represent as I believed it would be the better visualization to get the greater percentage increase among male and female. From the sketch I could easily get the answer for my question very easily. Since there was no significant number of males in the age group of 85-89 & 90-95 for the year 1900 and no significant females in the age group of 90-95 for the year 1900, the increase in percentage couldn't be calculated for these respective age groups. So mentioned the person count of increase. It shows that till age 20 male percentage was increasing.

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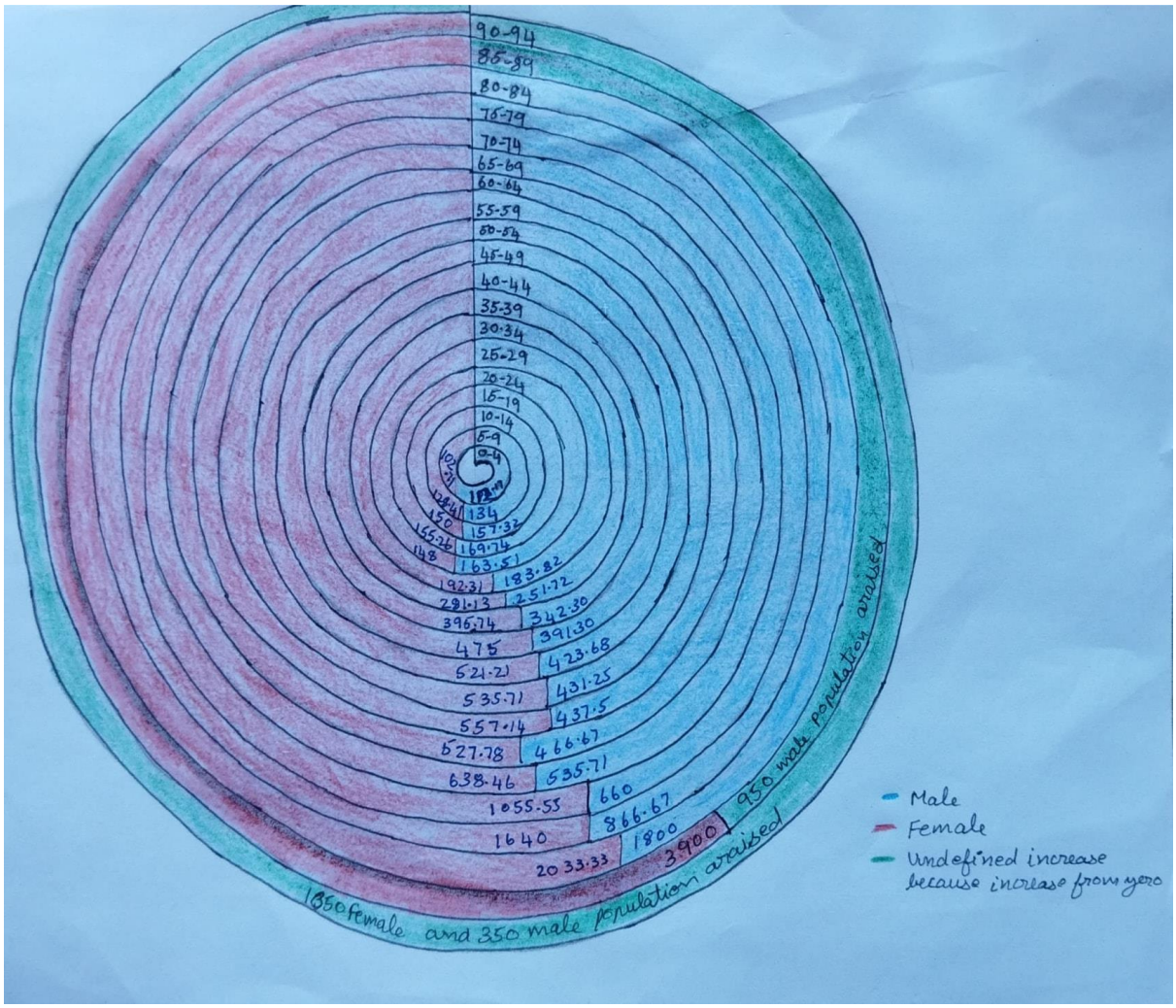
Interpretation from the sketch for the question:
0 to 4yr age group male % increase is 112 and female is 102.17.
9.83% of increase from the year 1900 to 2000 is lagging on female population increase to meet out the same population increase of male.

5-9yr age group male % increase is 134.45 and female is 128.41
6.04% of increase from the year 1900 to 2000 is lagging on female population increase to meet out the same population increase of male.

10-14yr age group male % increase is 157.32 and female is 150.
7.32% of increase from the year 1900 to 2000 is lagging on female population increase to meet out the same population increase of male.

15-19yr age group male % increase is 169.74 and female is 155.26.
14.48% of increase from the year 1900 to 2000 is lagging on female population increase to meet out the same population increase of male.

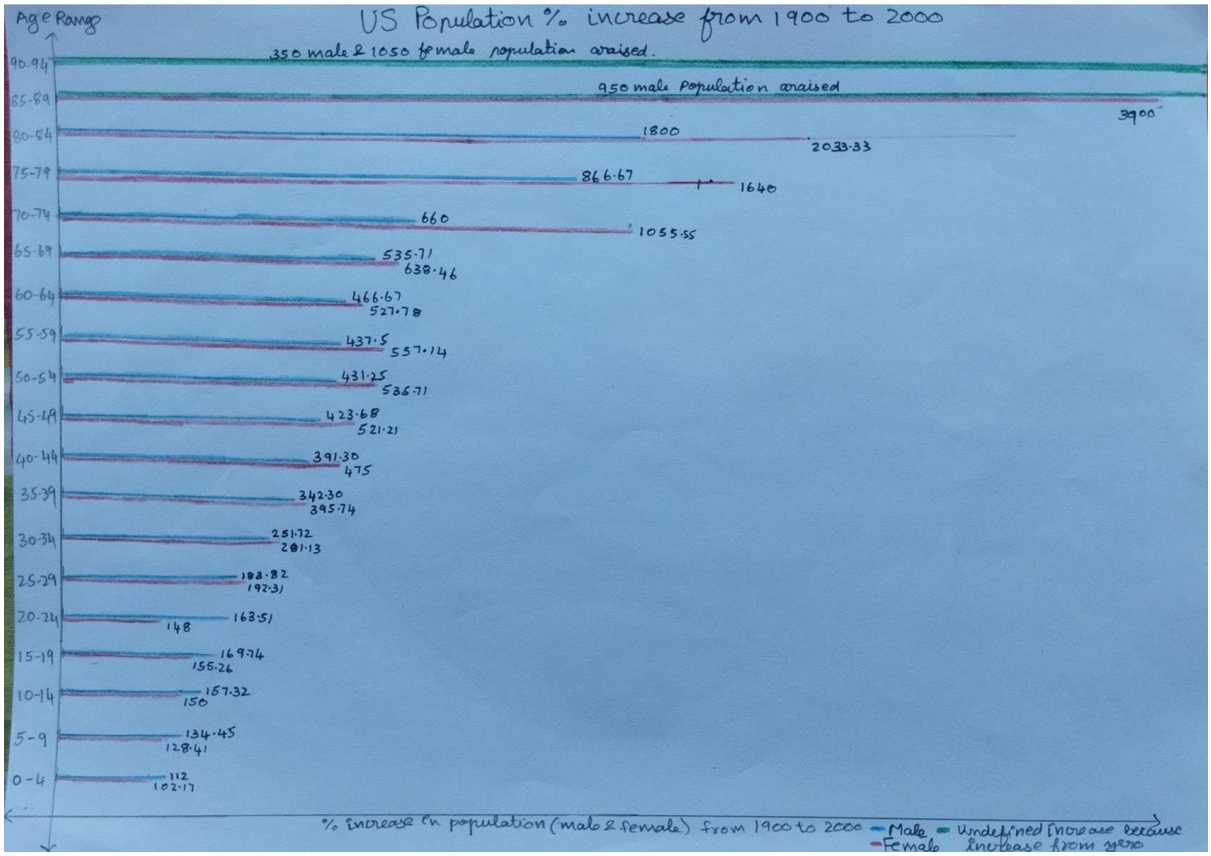
**Sketch -2 Graph**



This sketch makes me to visualize the density of increase percentage on gender and, I could visualize lucidly that which gender percentage is increasing more easily than my previous sketch. Though I faced the problem of representing the undefined increase in the age group 90-94 of both the gender categories and male age group of 85-89, it didn't impact my interpretation for the question as well as I believe it worked well to observe the population increase in this sketch. And shown the increase percentage of the female for the age group 85-89 though the male percentage is undefined for that range more interactive than the previous one. Strength of this sketch is it can give the bigger picture of increase in population change ratio in ease and weakness is difficult to draw the undefined increase in percentage of 90-94 age group.

Interpretation from the sketch for the question is same as previous one.
I can get the answers from the sketch graph

**Sketch -3 Graph**




This sketch allows me to imagine the increase in population among both the gender. This was so simple and precise to visualize. Here as well for the age group of 90-94 population percentage undefined increase is shown. It tells the increase percentage among the gender with simple line graph. I want to represent the population percentage change in simple, so I believe it's a simple sketch compared with other above sketches which is the strength of this graph. Weakness is same as above sketch it couldn't draw for the undefined increase in percentage of 90-94 age group.

Interpretation from the sketch for the question is same as previous one.
I can get the answers from the sketch graph

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**3**.

Among all I felt 2nd sketch is more interacting as I can easily interpret the population increase.

Others are not that good compared with sketch 2 because it gives bigger picture in visualizing the increase in population also in 2nd sketch I could visualize the increase in population increase of female for the age group 85-89 in spite of undefine increase for male.