1) Given our discussion of social welfare functions, identify the best policy according to each of the alternative welfare functions considered in class:

<table>
<thead>
<tr>
<th>Policy</th>
<th>Utility person 1</th>
<th>Utility person 2</th>
<th>Utility person 3</th>
<th>Utilitarian SWF</th>
<th>Rawlsian SWF</th>
<th>Multiplicative SWF / 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14</td>
<td>80</td>
<td>26</td>
<td>120</td>
<td>14</td>
<td>29.12</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>60</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>40</td>
<td>15</td>
<td>80</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>99</td>
<td>50</td>
<td>150</td>
<td>1</td>
<td>4.95</td>
</tr>
</tbody>
</table>

Which Policy is best by this SWF? D B A

Discuss the different findings: What do the different measures place weight on?

Utilitarian: emphasis on aggregate good. It doesn’t weight on the distribution of utility in the population.

Rawlsian: weight is on the outcome for the least well off. It doesn’t weigh on aggregate good.

Multiplicative: Emphasis on both aggregate good and distribution of welfare. A is a mix of larger aggregate good and less unequal distribution than D.
2) Contrast the use of GNI per capita with the UNDP Human Development Index as measures of well being in a society.

GNI per capita is income per person. This does not present what the person can do with income.

The HDI is a more holistic approach measuring well being in a society. It captures health outcome, educational outcome, and income.

However, both measures represent aggregated well being that doesn't capture inequality among the population.
3) CPI.
   a. What is a Consumer Price Index?

   CPI is a tool that allows to convert nominal prices over time to real prices, which are comparable over time. It purges nominal values of inflation to express real dollars in a given base year context.

   b. Why do we need a consumer price index?

   It lets us to compare real prices over time. This makes us to be able to account the changing buying power/inflation over time.

   c. What is the logic behind the argument that the CPI overcompensates people?

   CPI allows us to have an increase each year that to buy the same bundle of goods year after year. This is correct if relative prices change. If relative prices change at different rates, consumers will not want the same bundle given \( \frac{\text{\text{muc}}_1}{P_1} = \frac{\text{\text{muc}}_2}{P_2} \) next year.

   They will adapt to the price changes and move to a higher indifference curve.
4. Inequality.

a. Draw and interpret a Lorenz curve. Be clear about what is on the x-axis and what is on the y-axis.

\[ \text{Lorenz curve traces out the cumulative distribution of income as moving from poorest to richest in a population.} \]

\[ \text{Gini} = \frac{A}{A+B}. \]

b. Draw another Lorenz curve, and note areas A and B that can be used to calculate the Gini coefficient.

c. What range of values for a Gini coefficient is considered relatively equal? What range is considered relatively unequal?

Relatively equal Gini coefficient = 0.2 - 0.35

Relatively unequal Gini coefficient = 0.5 and above (up to 0.71)