1. A SAS data set named \textit{fueldat} was created using the following input statement:
\begin{verbatim}
  input St $ Pop Tax Numlic Income Roads Fuel;
\end{verbatim}

(a) Give the name of a SAS procedure to produce horizontal barcharts of fuel use for three income
groups in separate panels showing data for States in two fuel tax groups.

(b) The following statement is included in a \texttt{proc sgplot} step using the \textit{fueldat} data set as input,
where \texttt{Incgrp} and \texttt{Licgrp} are group variables each with 3 categories:
\begin{verbatim}
  hbar Incgrp/response=Fuel stat=mean group=Licgrp;
\end{verbatim}
Explain as much as possible the SAS output this statement will produce.

(c) Suppose \texttt{Taxgrp} variable has two fuel tax levels: \textit{Low} and \textit{High}. Explain as much as possible the
important statistical test the following step will produce:
\begin{verbatim}
  proc ttest data=mylib.fueldat;
    class Taxgrp;
    var Fuel;
    title "Fuel use by Tax group:Two Sample T-test";
  run;
\end{verbatim}

2. The following statement is included in a \texttt{proc univariate} step in a class SAS example using the
\textit{biology} data set as input where \texttt{Height} is a quantitative variable.
\begin{verbatim}
  histogram Height/midpoints=60 to 78 by 3 normal;
\end{verbatim}
Explain as much as possible the SAS output this statement will produce.

3. To examine whether a Poisson distribution provides a reasonable model for the number of shutdowns
in a plant, the following statement is included in a \texttt{proc freq} step:
\begin{verbatim}
  tables Shutdowns/nocum expected testp=(15.0 28.4 27.0 17.1 8.1 4.4);
\end{verbatim}
Explain as much as possible the details of the \textit{statistical test} this statement will produce.

4. To examine whether the distribution of the level of education of jurors is different from the level of
education distribution in the whole country, the following statement is included in a \texttt{proc freq} step:
\begin{verbatim}
  tables Education/nocum testp=(39.2 40.5 9.1 11.2);
\end{verbatim}
Explain as much as possible the details of the \textit{statistical test} this statement will produce.