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Problems

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**PROBLEMS FROM THE TEXARCANA CLASS:
ANSWER TO THE CHALLENGE PROBLEM**

The problem is, produce this:

•If I have all the eloquence of men or of angels, but speak without love, I am 1
simply a gong booming or a cymbal clashing. •If I have the gift of prophecy, 2
understanding all the mysteries there are, and knowing everything, and if I have
faith in all its fulness, to move mountains, but without love, then I am nothing
at all. •If I give away all that I possess, piece by piece, and if I even let them 3
take my body to burn it, but am without love, it will do me no good whatever.

•Love is always patient and kind; it is never jealous; love is never boastful 4
or conceited; •it is never rude or selfish; it does not take offence, and is not 5
resentful. •Love takes no pleasure in other people's sins but delights in the truth; 6
•it is always ready to excuse, to trust, to hope, and to endure whatever comes. 7

•Love does not come to an end. But if there are gifts of prophecy, the time will 8
come when they must fail; or the gift of languages, it will not continue for ever;

(and a second page)

and knowledge—for this, too, the time will come when it must fail. •For our 9
knowledge is imperfect and our prophesying is imperfect; •but once perfection 10
comes, all imperfect things will disappear. •When I was a child, I used to talk 11
like a child, and think like a child, and argue like a child, but now I am a man,
all childish ways are put behind me. •Now we are seeing a dim reflection in a 12
mirror; but then we shall be seeing face to face. The knowledge that I have now
is imperfect; but then I shall know as fully as I am known.

•In short, there are three things that last: faith, hope and love; and the greatest 13
of these is love.

from a data file, love.tex, that looks like this:

- If I have all the eloquence of men or of
angels, but speak without love, I am simply a gong booming
or a cymbal clashing.
- If I have the gift of prophecy, understanding all the mysteries
...
imperfect; but then I shall know as fully as I am known.
- In short, there are three things that last: faith, hope and
love; and the greatest of these is love.

Here is Don Knuth's solution.

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\input basic
\def\pagesize{1.8in}

\vsizelimit 8.5pt
\topbaseline 8.5pt
\maxdepth 3.5pt

\output{\save0\vbox{\unbox0\hbox{\lower3.5pt\hbox{}\page}}
\ifdimen 1ht0<\pagesize{}
\else{\vbox to \pagesize{\box0\vss}\advcount0}
}
\def\flushpage{\par\reject\ifdimen 1ht0=0pt{}
\else{\vsizelimit\pagesize\vbox to \pagesize{} \reject\vsizelimit 8.5pt} }

\topsep{\vskip -6pt minus 10pt}
\topskip 0pt minus -5pt
\def\marginof{\topinsert{\vskip0pt minus 5pt
\rjustline{\vbox to 8pt{} \sposel{\hskip 5pt\ :d\count1}\advcount1}}\!
}

\chcode`100=13 \def0{\ifvmode{\ \unskip}
\else{\unskip\hskip 1.5em plus .1em minus .1em}
\hbox to 0pt{\hss$\bullet$\marginof}

\setcount1 1
\input love
\end

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