Abstract

The verse package provides some aids for the typesetting of simple verse.

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1 Introduction

The typesetting of a poem should be really be dependent on the particular poem. Individual problems do not usually admit of a general solution, so this document and code should be used more as a guide towards some solutions rather than providing a ready made solution for any particular piece of verse.

This manual is typeset according to the conventions of the \TeX\ docstrip utility which enables the automatic extraction of the \TeX\ macro source files [GMS94].

Section 3 describes the usage of the \texttt{verse} package and commented source code is in Section 4. Colour is used to indicate input and output material; a blue background indicates \TeX\ input source, and a green background shows the corresponding output one should expect.

The doggerel used as illustrative material has been taken from [Wil01].

2 Verses in \LaTeX\ without this package

\LaTeX\ provides the \texttt{verse} environment which is defined as a particular kind of list. Within the environment you use \texttt{\\} to end a line and a blank line will end a stanza. For example, here is a single stanza poem:

\begin{lstlisting}[language=TeX]
\newcommand{\garden}{
  I used to love my garden \\% \\
  But now my love is dead \\% \\
  For I found a bachelor’s button \\% \\
  In black-eyed Susan’s bed.
}
\end{lstlisting}

When this is typeset as a normal \LaTeX\ paragraph (with no paragraph indentation) it looks like:

I used to love my garden
But now my love is dead
For I found a bachelor’s button
In black-eyed Susan’s bed.

Typesetting it within \TeX\’s \texttt{verse} environment produces:

I used to love my garden
But now my love is dead
For I found a bachelor’s button
In black-eyed Susan’s bed.

The stanza could also be typeset within the \texttt{alltt} environment, defined in the standard \texttt{alltt} package, using a normal font and no \texttt{\\} line endings.
I used to love my garden
But now my love is dead
For I found a bachelor's button
In black-eyed Susan's bed.

which produces:

I used to love my garden
But now my love is dead
For I found a bachelor's button
In black-eyed Susan's bed.

The \texttt{alltt} environment is like the \texttt{verbatim} environment except that you can use \LaTeX macros inside it.

In the \texttt{verse} environment long lines will be wrapped and indented but in the \texttt{alltt} environment there is no indentation.

Some stanzas have certain lines indented, often alternate ones. To typeset stanzas like this you have to add your own spacing. For instance:

\begin{verse}
There was an old party of Lyme \$ackslash$\$ackslash$
Who married three wives at one time. \$ackslash$\$ackslash$
\hspace{2em} When asked: ‘Why the third?’ \$ackslash$\$ackslash$
\hspace{2em} He replied: ‘One’s absurd, \$ackslash$\$ackslash$
And bigamy, sir, is a crime.’
\end{verse}

will be typeset in a verse environment as:

There was an old party of Lyme
Who married three wives at one time.
    When asked: ‘Why the third?’
    He replied: ‘One’s absurd,
And bigamy, sir, is a crime.’

Using the \texttt{alltt} environment you can put in the spacing via ordinary spaces. That is, this

\begin{alltt}\normalfont
There was an old party of Lyme
Who married three wives at one time.
    When asked: ‘Why the third?’
    He replied: ‘One’s absurd,
And bigamy, sir, is a crime.’
\end{alltt}

is typeset as

There was an old party of Lyme
Who married three wives at one time.
    When asked: ‘Why the third?’
    He replied: ‘One’s absurd,
And bigamy, sir, is a crime.’
More exotically you could use the TeX \texttt{\textbackslash parshape} command:

\begin{verbatim}
\texttt{\textbackslash parshape} = 5 \texttt{\textbackslash Opt} \texttt{\textbackslash linewidth} \texttt{\textbackslash Opt} \texttt{\textbackslash linewidth}
  2em \texttt{\textbackslash linewidth} 2em \texttt{\textbackslash linewidth} \texttt{\textbackslash Opt} \texttt{\textbackslash linewidth}
\texttt{\textbackslash noindent} There was an old party of Lyme \textbackslash \\
Who married three wives at one time. \textbackslash \\
When asked: ‘Why the third?’ \textbackslash \\
He replied: ‘One’s absurd, \textbackslash \\
And bigamy, sir, is a crime.’ \textbackslash \texttt{par}
\end{verbatim}

which will be typeset as:

There was an old party of Lyme
Who married three wives at one time.
  When asked: ‘Why the third?’
  He replied: ‘One’s absurd,
And bigamy, sir, is a crime.’

All of this is about as much assistance as standard (La)TeX provides.
3 The verse package

The code provided by the verse package is meant to help with some aspects of typesetting poetry but does not, and cannot, provide a comprehensive solution to all the requirements that will arise.

A brief introduction is included to get started quickly; see the examples in Section 3.4 for more context.

3.1 Brief introduction

The verse package provides the verse environment for typesetting verses, over-writing \TeX’s original definition. Every line in a verse environment must end with \, and every stanza within a verse should end with \! (an empty line afterwards is optional for readability). These requirements allow line numbering to work correctly in all cases. Use the \poemlines\{\langle N\rangle\} command to number every \langle N\rangle\text{th} line of a poem.

Use the \poemtitle\{\langle title\rangle\} command (just before the verse environment) to give each poem a title; commands are provided to adjust the formatting and include the poem into the standard table of contents.

Each stanza within a verse may optionally be surrounded by either an altverse or patverse environment to effect specific typesetting: altverse indents every second line of a stanza, and patverse allows arbitrary indentation based on the \langle pattern\rangle given by \indentpattern\{\langle pattern\rangle\}. The command \flagverse, placed at the very beginning of a stanza places a ‘title’; e.g., for numbering and otherwise labelling stanzas.

3.2 Comprehensive documentation

3.2.1 Main verse environments

\begin{verse} The verse environment provided by the package is an extension of the usual \LaTeX\ environment. The environment takes one optional parameter, which is a length; for example \begin{verse}\{4em\}. You may have noticed that the earlier verse examples are all near the left margin, whereas verses usually look better if they are typeset about the center of the page. The length parameter, if given, should be about the length of an average line, and then the entire contents will be typeset with the mid point of the length centered horizontally on the page.

\versewidth The length \versewidth is provided as a convenience. It may be used, for example, to calculate the length of a line of text for use as the optional argument to the verse environment:

\begin{verse} This is the average line,\end{verse}

\begin{verse} (\textwidth{versewidth}{This is the average line,}) \end{verse}

\begin{verse} \begin{verse} (versewidth) \end{verse} \end{verse}

altverse The individual verses within the verse environment are separated by a blank line in the input. Individual verses within verse may, however, be enclosed in the altverse environment. This has the effect of indenting the 2nd, 4th, etc., lines of the verse by the length \vgap.

patverse Individual verses within the verse environment may be enclosed in the patverse environment. Within the environment the indentation of each line is specified by an indentation pattern, which consists of an array of digits, \(d_1\) to \(d_n\),
and the \textit{n}th line is indented by $d_n$ times \textsc{vgap}. However, the first line is not indented, irrespective of the value of $d_1$.

\textbf{patverse* (env.)} The \texttt{patverse*} environment is similar to \texttt{patverse} environment, except that the pattern will keep on repeating itself.

\texttt{\indentpattern} The indentation pattern for a \texttt{patverse} environment is specified via the \texttt{\indentpattern(digits)} command. If the pattern is shorter than the number of lines in a verse, the trailing lines will not be indented.

\subsection*{3.2.2 Other verse commands}

\texttt{\\\%} Within the \texttt{verse} environment, the macro \texttt{\\%} must be used at the end of each line of a verse, except for the last line in each stanza. If the lines in a poem are to be \texttt{\\%} numbered then \texttt{\\%} must be used at the end of the last line in each stanza (the \texttt{\\%} macro increments the line numbers).

\texttt{\\\%*} The starred version, \texttt{\\\%*}, prohibits a page break after the line. The \texttt{\\\%*} version \texttt{\\\%>} causes a linebreak within a verse line.

The \texttt{\\%} macro in its various forms can also take an optional length argument, like \texttt{\\\%[30pt]} which will insert 30pt of vertical space; in the case of \texttt{\\\%>[30pt]} an additional 30pt of horizontal space will be inserted after the linebreak (effectively \texttt{\\\%>} is shorthand for \texttt{\verselinebreak}).

The allowable forms of the macro are:

\texttt{\\%, \\\%*, \\\%!, \\\%>, \\\%[...], \\\%*[...], \\\%![...], and \\\%>[...].}

\texttt{\vin} The command \texttt{\vin} is shorthand for \texttt{\hspace{\textsc{vgap}}} for use at the start of \texttt{\vin} an indented line of verse. The length \texttt{\textsc{vgap}} (initially 1.5em) can be changed by \texttt{\setlength} or \texttt{\addtolength}.

\texttt{\vindent} When a verse line is too long to fit within the typeblock it is wrapped onto the next line with a space, given by the value of the length \texttt{\vindent}.

\texttt{\verselinebreak} Using the command \texttt{\verselinebreak[length]} will cause later text in the line of the verse to be typeset indented on the following line. If the optional length argument is not given the indentation is \textsc{vgap}, otherwise the indentation is given by \texttt{\textit{length}} plus \textsc{vgap}. The broken line will count as a single line as far as the \texttt{altpverse} and \texttt{patverse} environments are concerned (see also the \texttt{\\\%>} macro).

\texttt{\flagverse} Putting the command \texttt{\flagverse{flag}} at the start of a line of verse will typeset \texttt{\textit{flag}} towards the left margin, ending a distance \texttt{\vleftskip} before the verse line.

\subsection*{3.2.3 Generic verse formatting}

\texttt{\stanzaskip} The length \texttt{\stanzaskip} controls the spacing between stanzas. It may be changed like any other length.

\texttt{\leftmargini} All verse lines have a minimum indent given by the length \texttt{\leftmargini} which also applies to any list environment. To change the minimum indent for verses do something along the lines:

\begin{verbatim}
\newlength{\saveleftmargini}
\setlength{\saveleftmargini}{\leftmargini}
\setlength{\leftmargini}{-1em}% for example to outdent verse
% verses
\setlength{\leftmargini}{\saveleftmargini}% restore original value
\end{verbatim}
### 3.2.4 Line numbering

\begin{itemize}
\item **\poemlines\{\textit{nth}\}** The declaration \poemlines{\textit{nth}} will cause every \textit{nth} lines of succeeding verses to be numbered. For example, \poemlines{5} will number every fifth line. The default is \poemlines{0} which prevents any numbering.
\item **\setverselinenum{\textit{firstlinenum}}{\textit{startnumsat}}** The command \setverselinenum{\textit{firstlinenum}}{\textit{startnumsat}} can be used to number the first verse line to \textit{firstlinenum} instead of the default ‘1’ and to specify that the first printed line number should be for line number \textit{startnumsat}. If used the command must be given within the \verse environment before the first line of the verses. For example, if you were quoting portions of poems from a source where the lines were numbered, your first line might be the 112th of the original and that line was originally numbered: \setverselinenum{112}{112} or if it was line 115 that was first numbered: \setverselinenum{112}{115}
\end{itemize}

Note that the numbers must be such that the following relationship holds:

\begin{equation}
\text{firstlinenum} \leq \text{startnumsat} < \text{firstlinenum} + \text{poemlines}
\end{equation}

**\thepoemline** Lines are numbered via \thepoemline which defaults to typesetting arabic numerals via:

\begin{verbatim}
\renewcommand*{\thepoemline}{\arabic{poemline}}
\end{verbatim}

The particular font is defined by \verselinenumfont{\textit{font-spec}}, with default:

\begin{verbatim}
\verselinenumfont{\rmfamily}
\end{verbatim}

**\vrightskip** By default the numbers are typeset at the distance \vrightskip into the right margin. If you want line numbers set at the left use the \verselinenumbersleft declaration. To revert to the default use \verselinenumbersright.

**\label** The standard \ref{\textit{key}} command can be used inside the \verse environment, between the end of the text of a line and the line-ending \textbackslash, to grab that line number, no matter what the setting of \poemlines. Elsewhere the standard \ref{\textit{key}} command can be used to refer to the line number.

### 3.2.5 Titles

\begin{itemize}
\item **\poemtitle\{\textit{short}\}\{\textit{long}\}** typesets the title of a poem and makes an entry into the ToC. There is a starred version that makes no ToC entry.
\item **\poemtoc** The kind of entry made in the ToC by the \poemtitle command is defined by \poemtoc. The initial definition is:

\begin{verbatim}
\newcommand{\poemtoc}{section}
\end{verbatim}

for a section-like ToC entry. This can be changed to, say, \texttt{chapter} or \texttt{subsection} or ....
\item **\poemtitlefont** This macro specifies the font and positioning of the poem title. Its initial definition is:

\begin{verbatim}
\newcommand{\poemtitlefont}{\normalfont\bfseries\large\centering}
\end{verbatim}

to give a \texttt{\large} bold centered title. This can of course be renewed if you want something else.
\item **\beforepoemtitleskip** These two lengths are the vertical space before and after the \poemtitle title text. They are initially defined to give the same spacing as for a \texttt{section} title. They can be changed by \setlength or \addtolength for different spacings.
\item **\poemtitlemark** The \poemtitle macro, but not \poemtitle*, calls the \poemtitlemark{\textit{title}}
macro, which is defined to do nothing. This would probably be changed by a pagestyle definition (like \sectionmark or \chaptermark).

### 3.3 Supports

The package includes some macros for supporting the patverse environment which may be more generally useful. See the code section for examples on how these may be used.

\newarray{⟨arrayname⟩}{⟨low⟩}{⟨high⟩} defines the ⟨arrayname⟩ array, where ⟨arrayname⟩ is a name like MyArray. The lowest and highest array indices are set to ⟨low⟩ and ⟨high⟩ respectively, where both are integer numbers.

\setarrayelement{⟨arrayname⟩}{⟨index⟩}{⟨text⟩} sets the ⟨index⟩ location in the ⟨arrayname⟩ array to be ⟨text⟩. For example:

\setarrayelement{MyArray}{23}{2^{23}}.

\getarrayelement{⟨arrayname⟩}{⟨index⟩}{⟨result⟩} sets the parameterless \getarrayelement macro ⟨result⟩ to the contents of the ⟨index⟩ location in the ⟨arrayname⟩ array. For example:

\getarrayelement{MyArray}{23}{\result}.

\checkarrayindex{⟨arrayname⟩}{⟨index⟩} checks if ⟨arrayname⟩ is an array and if ⟨index⟩ is a valid index for the array.

\stringtoarray{⟨arrayname⟩}{⟨string⟩} puts each character from ⟨string⟩ sequentially into the ⟨arrayname⟩ array, starting at index 1. For example:

\stringtoarray{MyArray}{Chars}.

\arraytostring{⟨arrayname⟩}{⟨result⟩} assumes that ⟨arrayname⟩ is an array of characters, and defines the macro ⟨result⟩ to be that sequence of characters. For example:

\arraytostring{MyArray}{MyString}.

\checkifinteger{⟨num⟩} checks if ⟨num⟩ is an integer (not less than zero). If it is then \ifinteger is set TRUE, otherwise it is set FALSE.

### 3.4 Examples

Here are some sample verses using the package facilities. First our old Limerick friend, but titled and centered:

\renewcommand{\poemtoc}{subsection}
\poemtitle{A Limerick}
\settowidth{\versewidth}{There was an old party of Lyme}
\begin{verse}[\versewidth]
There was an old party of Lyme \\
Who married three wives at one time. \\
\vin When asked: 'Why the third?' \\
\vin He replied: 'One's absurd, \\
And bigamy, sir, is a crime.' \\
\end{verse}

which gets typeset as below. The default \poemtoc is redefined to subsection so the title is entered into the ToC as an unnumbered \subsection.
A Limerick

There was an old party of Lyme
Who married three wives at one time.
When asked: ‘Why the third?’
He replied: ‘One’s absurd,
And bigamy, sir, is a crime.’

Next is the Garden verse within the \texttt{altverse} environment. It is titled and centered.

\begin{verse}
\begin{altverse}
\garden
\end{altverse}
\end{verse}

which produces:

\texttt{Love’s lost}

I used to love my garden
But now my love is dead
For I found a bachelor’s button
In black-eyed Susan’s bed.

It is left up to you how you might want to add information about the author of a poem. Here is one example of a macro for this:

\newcommand{\attrib}[1]{%\nopagebreak{\raggedleft{\footnotesize #1\par}}

This can be used as in the next bit of doggerel.

\begin{verse}
\begin{altverse}
\garden
\end{altverse}
\end{verse}
\attrib{Anonymous}
Fleas
What a funny thing is a flea.
You can’t tell a he from a she.
But he can. And she can.
Whooppee!
Anonymous

Here is an example of line wrapping.
\poemtitle{In the beginning}
\settowidth{\versewidth}{And objects at rest tended to remain at rest}
\begin{verse}{\versewidth}
Then God created Newton, \\ And objects at rest tended to remain at rest, \\ And objects in motion tended to remain in motion, \\ And energy was conserved \\
and momentum was conserved \\
and matter was conserved \\ And God saw that it was conservative. \\end{verse}
\attrib{Possibly from \textit{Analog}, circa 1950}

In the beginning
Then God created Newton,
And objects at rest tended to remain at rest,
And objects in motion tended to remain in motion,
And energy was conserved and momentum was conserved and
matter was conserved
And God saw that it was conservative.
Possibly from \textit{Analog}, circa 1950

Here is one with a forced line break and a slightly different title style.
\renewcommand{\poemtitlefont}{\normalfont\large\itshape\centering}
\poemtitle{Mathematics}
\settowidth{\versewidth}{Than Tycho Brahe, or Erra Pater:}
\begin{verse}{\versewidth}
In mathematics he was greater \\ Than Tycho Brahe, or Erra Pater: \\ For he, by geometric scale, \\ Could take the size of pots of ale;\\ \settowidth{\versewidth}{Resolve by} Resolve, by sines \\ Resolve by \\ and tangents straight, \\ If bread or butter wanted weight; \\ And wisely tell what hour o’ the day \\ The clock does strike, by Algebra. \\end{verse}
\attrib{Samuel Butler (1612--1680)}
3.4 Examples

Mathematics

In mathematics he was greater
Than Tycho Brahe, or Erra Pater:
For he, by geometric scale,
Could take the size of pots of ale;
Resolve, by sines
and tangents straight,
If bread or butter wanted weight;
And wisely tell what hour o’ the day
The clock does strike, by Algebra.

Samuel Butler (1612–1680)

Another limerick, but this time taking advantage of the \texttt{patverse} environment and numbering every third line.

\begin{verse}
\begin{altverse}
\begin{poemtitle}{The Young Lady of Ryde}
There was a young lady of Ryde\textbackslash{}
Who ate some apples and died. \textbackslash{}
The apples fermented \textbackslash{}
Inside the lamented \textbackslash{}
And made cider inside her inside. \textbackslash{}
\end{altverse}
\end{verse}

The Young Lady of Ryde

There was a young lady of Ryde
Who ate some apples and died.
The apples fermented
Inside the lamented
And made cider inside her inside.

The next example is a song you may have heard of. The ‘forty-niner’ in line 3 refers to the gold rush of 1849.

\begin{verse}
\begin{altverse}
\begin{poemtitle}{Clementine}
In a cavern, in a canyon\textbackslash{}
Excavating for a mine, \textbackslash{}
\end{altverse}
\end{verse}

Excavating for a mine, \textbackslash{}

Lived a miner, forty-niner, \label{vs:49} \\\nAnd his daughter, Clementine. \\\n\end{altverse}

\begin{altverse}
\flagverse{\textsc{chorus}} Oh my darling, Oh my darling, \\\nOh my darling Clementine. \\\nThou art lost and gone forever, \\\nOh my darling Clementine \\\n\end{altverse}

\poemlines{0}
\end{verse}

\section*{Clementine}

\begin{tabular}{p{8cm}p{8cm}}
1. & In a cavern, in a canyon, \\
& Excavating for a mine, \\
& Lived a miner, forty-niner, \\
& And his daughter, Clementine. \\
\hline
\textsc{chorus} & Oh my darling, Oh my darling, \\
& Oh my darling Clementine. \\
& Thou art lost and gone forever, \\
& Oh my darling Clementine
\end{tabular}

The last example is a much more ambitious use of \texttt{indentpattern}. In this case it is defined as:
\texttt{\indentpattern{01355432211234689877977554565322234554445688778899}}
and the result is shown on the next page.
Mouse’s Tale

Fury said to
a mouse, That
he met
in the
house,
‘Let us
both go
to law:
I will
prosecute
you. —
Come, I’ll
take no
denial;
We must
have a
trial:
For
really
this
morning
I’ve
nothing
to do.’
Said the
mouse to
the cur,
Such a
trial,
dear sir,
With no
jury or
judge,
would be
wasting
our breath.’
‘I’ll be
judge,
I’ll be
jury.’
Said
cunning
old Fury;
‘I’ll try
the whole
cause
and
condemn
you
to
death.’

Lewis Carrol, *Alice’s Adventures in Wonderland*, 1865
4 The package code

To try and avoid name clashes, all the internal commands include the string @vs.

4.1 Preliminaries

Announce the name and version of the package, which requires \LaTeX{} 2ε.

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{verse}[2014/05/10 v2.4b verse typesetting]

For reference, here is the original definition of the \texttt{verse} environment from \texttt{classes.dtx}, based on \texttt{@centercr}.

\begin{verbatim}
\newenvironment{verse}
  {\let\\@centercr
   \list{}\itemsep \z@ \itemindent -1.5em
   \rightmargin \leftmargin
   \advance\leftmargin 1.5em
   \item\relax
  }{\endlist}
\end{verbatim}

4.2 Verse code

We need a counter for verse lines and poem lines, and one for unique hyperref anchors (based on the verse environment). Also one for specifying the start of line numbering.

\newcounter{vslineno}
\newcounter{poemline}
\newcounter{fvsline}
\setcounter{fvsline}{0}
\newcounter{modulo@vs}
\newcounter{verse@envctr}
\setcounter{verse@envctr}{0}
\providecommand{\theHpoemline}{}
\renewcommand*{\theHpoemline}{\arabic{verse@envctr}\.\arabic{poemline}}
\verselinenumfont
\vlvnumfont

\begin{verbatim}
\newcommand{\poemlines}{(nth)}\{ specifications that every \langle nth \rangle poem line should be numbered. Default is not to number any lines:
\begin{verbatim}
\newcommand{\poemlines}[1]{% \ifnum#1\z@ \setcounter{modulo@vs}{#1}% \else \setcounter{modulo@vs}{0}% \fi \verselinenumfont{\vlvnumfont}
\end{verbatim}
\end{verbatim}

Set the font for line numbers.

\newcommand{\verselinenumfont}{\def{\vlnumfont}{\family}}
\setverselinenums \setverselinenums\{firstlinenum\}\{startnumsat\} sets the number of the first verse line to be \textit{firstlinenum} and the first line to be numbered to be \textit{startnumsat}.

Note that \textit{startnumsat < (firstlinenum + poemlines)}.

\newcommand*{\setverselinenums}{\setcounter{poemline}{#1}}%

Set the poeline counter to #1.

\setcounter{poemline}{#1}\addtocounter{poemline}{\numexpr#1-1}%

\refstepcounter{poemline}%

If line numbers are to be printed, set \texttt{\c@fvsline} to a suitable value so that the first number to be printed will be line \texttt{#2}.

\ifnum\c@modulo@vs<\numexpr#2\relax
\divide\c@tempcnta\c@modulo@vs
\multiply\c@tempcnta\c@modulo@vs
\c@fvsline\numexpr#2\relax
\advance\c@fvsline-\c@tempcnta
\fi

\getmodulo@vs This returns either nothing or a poem line number for printing.

\newcommand{\getmodulo@vs}{\bgroup
\ifnum\c@modulo@vs<\numexpr#1 % no line numbers
\else
\ifnum\c@modulo@vs<\numexpr#2 % every line numbered
\vlnumfont\thepoemline
\else
\c@tempcnta\c@poemline
\advance\c@tempcnta-\c@fvsline
\divide\c@tempcnta\c@modulo@vs
\multiply\c@tempcnta\c@modulo@vs
\advance\c@tempcnta\c@fvsline
\ifnum\c@tempcnta=\c@poemline\vlnumfont\thepoemline\fi
\fi
\fi
\egroup}

\ifaltindent This should be set TRUE for indenting alternate lines.
\newif\ifaltindent

\ifpattern This should be set TRUE for indenting lines according to a pattern.
\newif\ifpattern

\ifstarpattern This should be set TRUE for indenting lines according in a \texttt{verse*} environment.
\newif\ifstarpattern

\versewidth \versewidth is a convenience length for the user.
\newlength{\versewidth}

\vgap The length \texttt{\vgap} is used as the basis for spacing. \texttt{\vin} makes a horizontal space of \texttt{\vgap} and \texttt{\vindent} is the indentation of wrapped lines in a verse. \texttt{\stanzaskip} \texttt{\vindent} controls the space between stanzas.
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\newlength{\vgap}
\setlength{\vgap}{1.5em}
\newcommand{\vin}{\hspace*{\vgap}}
\newlength{\vindent}
\setlength{\vindent}{2\vgap}
\newlength{\stanzaskip}
\setlength{\stanzaskip}{0.75\baselineskip}

\vleftskip 
\vrightskip 
Skips to the left and right of a line of verse.
\newlength{\vleftskip}
\setlength{\vleftskip}{30pt}
\newlength{\vrightskip}
\setlength{\vrightskip}{10pt}

\flagverse \flagverse{⟨flag⟩} inserts ⟨flag⟩ at the left (of a line).
\newcommand{\flagverse}{[1]{% 
\hskip-\vleftskip\llap{#1}\hskip\vleftskip
\ignorespaces
}}

\verselinebreak Break a verse line by inserting \newline.¹
\newcommand*{\verselinebreak}{[1]{% 
\newline\hspace*{#1}\
\ignorespaces
}}

\incr@vsline Increment the line counters.
\newcommand{\incr@vsline}{% 
\refstepcounter{poemline}\
\stepcounter{vslineno}\
}

\@vsifbang Like the kernel \@ifstar except it looks for an exclamation mark!
\newcommand{\@vsifbang}{[1]{\@ifnextchar !{\@firstoftwo{#1}}}

\@vsifgt Like the kernel \@ifstar except it looks for a > character.
\newcommand{\@vsifgt}{[1]{\@ifnextchar >{\@firstoftwo{#1}}}

\@vstypelinenumright \@vstypelinenumleft 
\verselinenumbersright \verselinenumbersleft 
These control the typesetting of verse line numbers to the right and to the left of the verse. Default is to set them at the right.
\newcommand{\@vstypelinenumright}{% 
\hfill\rlap{\kern\vrightskip\kern\rightmargin\getmodulo@vs}\
}
\newcommand{\@vstypelinenumleft}{% 
\hfill\rlap{\kern-\textwidth\kern-\vrightskip\getmodulo@vs}\
}
\newcommand{\verselinenumbersright}{%\def\@vstypelinenum{\@vstypelinenumright}}
\newcommand{\verselinenumbersleft}{%\def\@vstypelinenum{\@vstypelinenumleft}}

¹In an email to me dated 2006/01/13 Aaron Rendahl pointed out that this should include an \ignorespaces.
\@vscentercr  This puts the poem line number in the margin, increments the line numbers, and then deals with the options. It is based on the kernel \@centercr. This has to handle various forms of the \texttt{\ vs} command: \texttt{\ vs}, \texttt{\ vs*}, \texttt{\ vs!}, and \texttt{\ vs>}, together with an optional length argument.

\begin{verbatim}
\newcommand{\@vscentercr}{%\ifhmode \unskip\else \@nolnerr\fi \@vstypelinenum % \hfill\rlap{\kern\vrightskip\kern\rightmargin\getmodulo@vs}%% \hfill\rlap{\kern\vrightskip\kern\rightmargin\getmodulo@vs}%
\newcommand{\@vsxcentercr}{%\let\@vsicentercr\@vsxcentercr%\newcommand{\@vsicentercr}[1]{\vskip #1\ignorespaces \start@vsline}%
\end{verbatim}

For > call \verselinebreak to process it.

\begin{verbatim}
\newcommand{\@vsxcentercr}{% \addvspace{-\parskip}\@ifnextchar[ {\@vsicentercr}{\start@vsline}%
\end{verbatim}

\@vsicentercr  Processes \texttt{\ vs*}, and either calls \@vsicentercr to handle a [length], or \start@vsline.

\begin{verbatim}
\newcommand{\@vsxcentercr}{% \newcommand{\@vsxcentercr}[1]{\vskip #1\ignorespaces \start@vsline}%
\end{verbatim}

\@vsicentercr  Processes (\texttt{\ vs})[length] and then calls \start@vsline.

\begin{verbatim}
\def\@vsicentercr[#1]{\vskip #1\ignorespaces \start@vsline}%
\end{verbatim}

\@start@vsline  This is called at the start of every verse line except the first.

\begin{verbatim}
\newcommand{\@start@vsline}{% \ifaltindent\ifodd\c@vslineno\else\vin\fi\fi % \ifpattern\get@vsindent\fi % \ifstarpattern\getstar@vsindent\fi %}
\end{verbatim}

\texttt{verse} (enc.)  The extended \texttt{verse} environment. It sets the verse line counter, then defines the particular list environment adjusting the margins to center according to the length parameter. If the length parameter is at least the \texttt{\linewidth} then the ‘centering’ defaults to the original \texttt{verse} layout.

\begin{verbatim}
\renewenvironment{verse}{[1][\linewidth]{% \stepcounter{verse@envctr}{% \setcounter{poemline}{0}\reftopcounter{poemline}{% \setcounter{vslineno}{1}% \let\\@vscentercr % \list{}{\itemsep \z@ \itemindent \vindent% \listparindent\itemindent% \parsep \stanzaskip% \ifdim #1 < \linewidth}
\end{verbatim}
The package code

\rightmargin \z@\setlength{\leftmargin}{\linewidth}\addtolength{\leftmargin}{-#1}\addtolength{\leftmargin}{-0.5\leftmargin}\else\rightmargin \leftmargin\fi\addtolength{\leftmargin}{\vindent}}%\item[]\endlist

\altverse\hspace*{2em}This sets \altindenttrue (afterwards false) and initialises the line counter.

4.3 Pattern code

The pattern code is based on the idea of converting a string of digits to an array of digits, and then being able to access the digit at a particular position in the array.

\vs@nameedef A shorthand for using \protected@edef.
\newcommand{\vs@nameedef}{1}{%\expandafter\protected@edef\csname #1\endcsname
\ifbounderror A flag set TRUE if an attempt is made to access an array element outside the array limits.
\newif{\ifbounderror}
\ifinteger A flag to indicate if a ‘number’ is an integer (TRUE) or not (FALSE).
\newif{\ifinteger}
\c@chrsinstr A counter for the number of characters.
\newcounter{chrsinstr} % CHARactersINSTRING
\newarray \newarray{⟨arrayname⟩}{⟨low⟩}{⟨high⟩} defines an array called ⟨arrayname⟩ (no backslash e.g. MyArray), with low and high limits ⟨low⟩ and ⟨high⟩.
\newcommand{\newarray}{3}{%\vs@nameedef{#1-low}{#2}\vs@nameedef{#1-high}{#3}\ifnum #3<#2\PackageError{verse}{Limits for array #1 are in reverse order}{\@ehc}%\fi
\stringtoarray \stringtoarray{⟨arrayname⟩}{⟨string⟩} puts each character from ⟨string⟩ sequentially into the ⟨arrayname⟩ array, starting with ⟨low⟩ = 1. It checks for an empty ⟨string⟩ and handles that specially.
4.3 Pattern code

\def\@vsarrayname{#1}%
\protected@edef\the@vsstring{#2}%
\newarray{\@vsarrayname}{1}{1}%
@ifmtarg{#2}{%
\c@chrsinstr \z@
@namedef{\@vsarrayname-1}{}
}%
\c@chrsinstr \one
\expandafter@vsstringtoarray \the@vsstring\@vsend
}

\@vsstringtoarray Recursively adds characters to the array \@vsarrayname, incrementing the array's high limit.
\def\@vsstringtoarray #1#2\@vsend{%
\@namedef{\@vsarrayname-\the\c@chrsinstr}{#1}%
\vs@nameedef{\@vsarrayname-high}{\the\c@chrsinstr}%
@ifmtarg{#2}{%
\def\@vsinext{}%
}\%}
\advance\c@chrsinstr \one
\def\@vsinext{%}
\@vsstringtoarray #2\@vsend%
)
\@vsinext

\setarrayelement \setarrayelement{(arrayname)}{(index)}{(value)} sets the (arrayname) array's element at (index) to (value).
\newcommand{\setarrayelement}[3]{%
\checkarrayindex{#1}{#2}%
\vs@nameedef{#1-#2}{#3}%

\getarrayelement \getarrayelement{(arrayname)}{(index)}{(value)} defines the parameterless macro (value) (e.g., \result) to be the value at (index) in the (arrayname) array.
\newcommand{\getarrayelement}[3]{%
\checkarrayindex{#1}{#2}%
\vs@nameedef{#1-#2}{#3}%

\checkarrayindex \checkarrayindex{(arrayname)}{(index)} checks that the (index) of the (arrayname) array is valid. \ifbounderror is set FALSE if everything is OK, otherwise it is set TRUE.
\newcommand{\checkarrayindex}[2]{%
\bounderrorfalse
@ifx\csname #1-low\endcsname\relax
\ifpattern\else
\PackageError{verse}{No array called #1}{\@ehc}%
\fi
\bounderrortrue
\fi

\begin{verbatim}
145 \def\@vsarrayname{#1}%
146 \protected@edef\the@vsstring{#2}%
147 \newarray{\@vsarrayname}{1}{1}%
148 \@ifmtarg{#2}{%
149 \c@chrsinstr \z@
150 @namedef{\@vsarrayname-1}{}
151 }%
152 \c@chrsinstr \one
153 \expandafter@vsstringtoarray \the@vsstring\@vsend
154 %
155 }
156 \def\@vsstringtoarray #1#2\@vsend{%
157 \@namedef{\@vsarrayname-\the\c@chrsinstr}{#1}%
158 \vs@nameedef{\@vsarrayname-high}{\the\c@chrsinstr}%
159 \@ifmtarg{#2}{%
160 \def\@vsinext{}%
161 }%
162 \advance\c@chrsinstr \one
163 \def\@vsinext{%}
164 \@vsstringtoarray #2\@vsend%
165 %
166 %}
167 \@vsinext
168 }
169 \newcommand{\setarrayelement}[3]{%
170 \checkarrayindex{#1}{#2}%
171 \vs@nameedef{#1-#2}{#3}%
172 }
173 \newcommand{\getarrayelement}[3]{%
174 \checkarrayindex{#1}{#2}%
175 \vs@nameedef{#1-#2}{#3}%
176 }
177 \newcommand{\checkarrayindex}[2]{%
178 \bounderrorfalse
179 \expandafter@ifx\csname #1-low\endcsname\relax
180 \ifpattern\else
181 \PackageError{verse}{No array called #1}{\@ehc}%
182 \fi
183 \bounderrortrue
184 \fi
\end{verbatim}

\ifnum #2<\@nameuse{#1-low}\relax
\ifpattern\else
\PackageError{verse}{Index #2 outside limits for array #1}{\@ehc}%
\fi
\bounderrortrue
\fi
\ifnum #2>\@nameuse{#1-high}\relax
\ifpattern\else
\PackageError{verse}{Index #2 outside limits for array #1}{\@ehc}\i
\bounderrortrue
\fi\}

\@ifmtarg
Provides an if-then-else command for an empty macro argument (empty = zero or more spaces only). Use as:
\@ifmtarg{arg1}{Code for arg1 empty}{Code for arg1 not empty}
This code is copied from my ifmtarg package.
\begingroup
\catcode'Q=3
\long\gdef\@ifmtarg#1\{\@xifmtarg#1QQ\@secondoftwo\@firstoftwo\@nil\}
\long\gdef\@xifmtarg#1#2Q#3#4#5\@nil{#4}
\long\gdef\@ifnotmtarg#1\{\@xifmtarg#1QQ\@firstofone\@gobble\@nil\}
\endgroup

\arraytostring
\arraytostring{(arrayname)}{(string)} converts the characters in the \langle arrayname \rangle array into the parameterless macro \langle string \rangle (e.g., \MyString).
\newcommand{\arraytostring}[2]{{}
\def#2{}%
@c@chrsinstr = \@nameuse{#1-low}%
@vsarraytostring(#1)(#2)%
}

\@vsarraytostring
\@vsarraytostring{(arrayname)}{(string)} recursively adds the (character) elements from \langle arrayname \rangle to \langle string \rangle.
\newcommand{\@vsarraytostring}[2]{{}
@ifnum@c@chrsinstr<\@nameuse{#1-high}\else
\protected@edef#2{#2\@nameuse{#1-\thechrsinstr}}%
\advance@c@chrsinstr\@ne%
\@vsarraytostring(#1)(#2)%
\fi%
}

\checkifinteger
\checkifinteger{(num)} checks if \langle num \rangle is an integer. If it is, then \ifinteger is set TRUE, otherwise it is set FALSE. (Code based on Donald Arseneau’s cite package).
\newcommand{\checkifinteger}[1]{{}
\protected@edef\@vsawl[#1]%
@ifcat _\ifnum<1\gobm{#1} _\else A\fi
\integertrue
\else
\integerfalse
\fi%
}

\gobm \gobm\{\langle num \rangle\} is defined as \langle num \rangle. It could be defined as:
\newcommand{\gobm}[1]{\ifx-#1\expandafter\gobm\else#1\fi}
which would remove a leading minus sign (hyphen) from its argument (gobm = gobble minus sign). (Code from a posting to CTT by Donald Arseneau on 1997/07/21).

\indentpattern \indentpattern\{\langle digits \rangle\} stores \langle digits \rangle for use as a verse indentation pattern.

\newcommand{\indentpattern}[1]{% 
\stringtoarray{Array@vs}{#1} 
\get@vsindent \get@vsindent gets the indent pattern digit for the \thevslineno, then uses this to specify the line indentation as digit*\vgap.
\newcommand{\get@vsindent}{% 
\getarrayelement{Array@vs}{\number\value{vslineno}}{\@vspat} 
\ifbounderror 
\arraytostring{Array@vs}{\@vsp@t} 
\PackageWarning{verse}{\textquoteleft\thevslineno\textquoteright\ for pattern \textquoteleft\@vsp@t\textquoteright\ is out of bounds} 
\def\@vspat{0} 
\else 
\ifinteger{\@vspat} 
\ifinteger{\@vsp@t} at index \thevslineno in pattern \textquoteleft\@vsp@t\textquoteright\ is not a digit} 
\def\@vspat{0} 
\fi 
\fi 
\ifcase\@vspat\else\hspace*{\@vspat\vgap}\fi 
\getstar@vsindent \getstar@vsindent gets the indent pattern digit for the \patverse* environment, then uses this to specify the line indentation as digit*\vgap. It lets the pattern repeat by resetting the vslineno counter.
\newcommand{\getstar@vsindent}{% 
\expandafter\ifx\csname Array@vs-high\endcsname\relax 
\PackageError{verse}{A pattern has not been specified}{\@ehc} 
\else 
\ifnum\c@vslineno>\@nameuse{Array@vs-high} 
\setcounter{vslineno}{1} 
\fi 
\get@vsindent 
\fi 
\ifcase\@vspat\else\hspace*{\@vspat\vgap}\fi 
\patverse (env.) The environment for setting verse line indents according to a pattern. It starts by setting \ifpattern TRUE, any other flags to FALSE, and initialises the line number. It ends by setting \ifpattern FALSE.
\newenvironment{patverse}{\starpatternfalse\patterntrue\altindentfalse\setcounter{vslineno}{1}}{\patternfalse}
patverse* (env.) The environment for setting verse line indents according to a repeating pattern. It starts by setting \ifstarpattern TRUE, any other flags to FALSE, and initialises the line number. It ends by setting \ifstarpattern FALSE.

\newenvironment{patverse*}{\starpatterntrue\patternfalse\altindentfalse\setcounter{vslineno}{1}}{\starpatternfalse}

4.4 Title code

\poemtitle Typeset a poem title (like \section or other). The actual work is done by \@vsptitle (plain) or \@vssptitle (starred).
\newcommand{\poemtitle}{\par\secdef\@vsptitle\@vssptitle}
\poemtoc The kind of entry \poemtitle is to make in the ToC.
\newcommand{\poemtoc}{section}
\@vsptitle Typeset a \poemtitle.
\def{\@vsptitle[#1]#2}{\@nameuse{phantomsection}\addcontentsline{toc}{\poemtoc}{#1}\poemtitlemark{#1}\@vstypeptitle{#2}\@afterheading}
\@vssptitle Typeset a \poemtitle*. 
\def{\@vssptitle#1}{\@vstypeptitle{#1}\@afterheading}
\@vstypeptitle This really typesets the title.
\newcommand{\@vstypeptitle}[1]{\vspace{\beforepoemtitleskip}\poemtitlefont #1\par\vspace{\afterpoemtitleskip}}
\poemtitlefont Sets the appearance to the title of a poem, and something for a header.
\newcommand{\poemtitlefont}{\normalfont\large\bfseries\centering}
\poemtitlemark[1]{\normalfont\large\bfseries\centering}
\beforepoemtitleskip Lengths before and after a poem title, using the \section values.
\newlength{\beforepoemtitleskip}
\setlength{\beforepoemtitleskip}{3.5ex \@plus 1ex \@minus .2ex}
\newlength{\afterpoemtitleskip}
\setlength{\afterpoemtitleskip}{2.3ex \@plus .2ex}

The end of this package.
### References


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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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