bchart: Simple Bar Charts in LaTeX

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Abstract

bchart is a LaTeX package for drawing simple bar charts with horizontal bars on a numerical x-axis. It is based on the TikZ drawing package. The focus of this package is on simplicity and aesthetics.
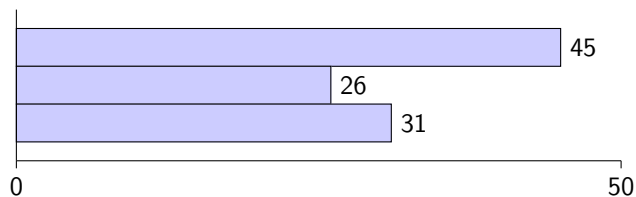
1 Introduction

bchart is a package for drawing bar charts within LaTeX documents. The only type of charts supported by this package are bar charts with horizontal bars on a numerical x-axis. The creation of such charts is very simple, as will be shown below. To use the package, you have to make sure that LaTeX is able find the file bchart.sty, e.g. by placing a copy of it into the directory of the tex-file that is using the package. In order to load the package, you have to place the following command at the beginning of your LaTeX source file:
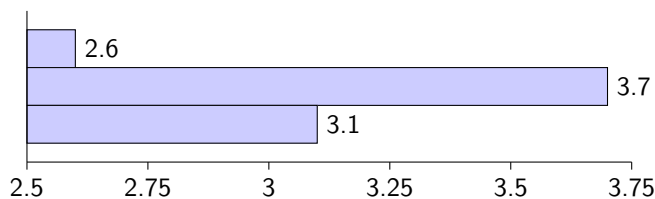
```
\usepackage{bchart}
```

2 Charts

Charts are created with the bchart-environment. Within this environment, you can put one or more bars by using the bcbar-command. A very simple chart can look as follows (code and resulting chart):

```
\begin{bchart}[max=50]
  \bcbar{45}
  \bcbar{26}
  \bcbar{31}
\end{bchart}
```
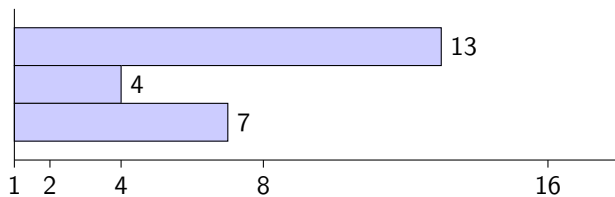
The option `max` defines the maximum value on the x-axis (the default is 100). The number given to the `bcbar`-command defines the value of the respective bar, visualized by the width of the bar and printed as a number to the right of it. The minimum value on the x-axis defaults to 0, but this can be changed by the use of the option `min`. The option `step` can be used to show marks at a regular interval:

```
\begin{bchart}[min=2.5,step=0.25,max=3.75]
  \bcbar{2.6}
  \bcbar{3.7}
  \bcbar{3.1}
\end{bchart}
```
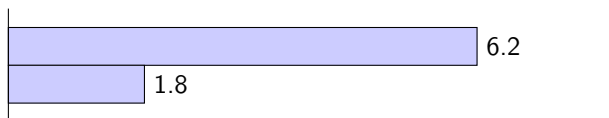

For marks at irregular intervals, the `steps`-option can be used instead:

```
\begin{bchart}[min=1,max=18,steps={1,3,7,15}]
  \bcbar{13}
  \bcbar{4}
  \bcbar{7}
\end{bchart}
```


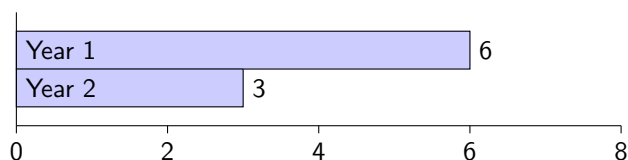To show no marks at all, the flag `plain` is used:

```
\begin{bchart}[max=8,plain]
  \bcbar{6.2}
  \bcbar{1.8}
\end{bchart}
```
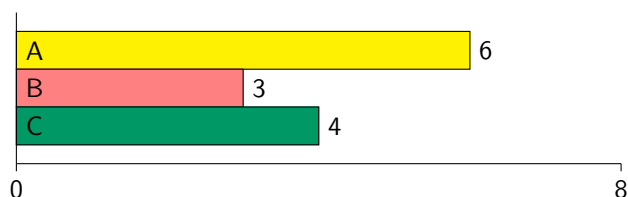
3   Bars

The bars of a bar chart can be modified in several ways. The `text`-option prints text within the inside of the bar:

```
\begin{bchart}[step=2,max=8]
  \bcbar[text=Year 1]{6}
  \bcbar[text=Year 2]{3}
\end{bchart}
```
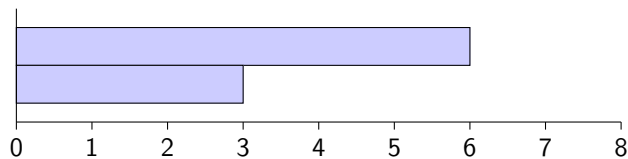
The background color of the bar can be changed with the `color`-option:

```
\begin{bchart}[max=8]
  \bcbar[text=A,color=yellow]{6}
  \bcbar[text=B,color=red!50]{3}
  \bcbar[text=C,color=green!60!blue]{4}
\end{bchart}
```

In addition to predefined colors like `yellow` and `red`, new colors can be defined and existing ones can be combined. `red!50`, for example, means a 50% saturated red, whereas `green!60!blue` stands for a color obtained by blending green and blue at a ratio of 60:40. See the TikZ manual for more information on how to manipulate colors. The default color for bars is `blue:20`. The `plain`-flag can be used to prevent the value of the bar to be displayed:
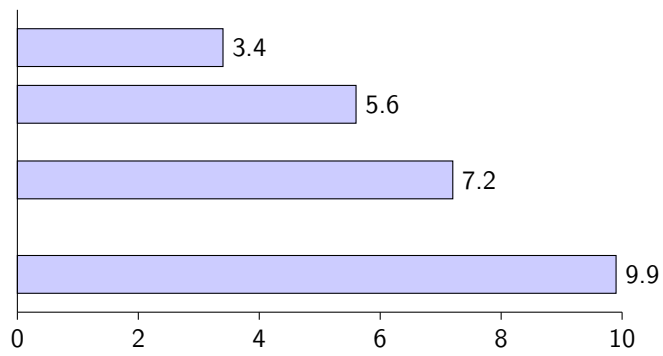
```
\begin{bchart}[step=1,max=8]
  \bcbar[plain]{6}
  \bcbar[plain]{3}
\end{bchart}
```
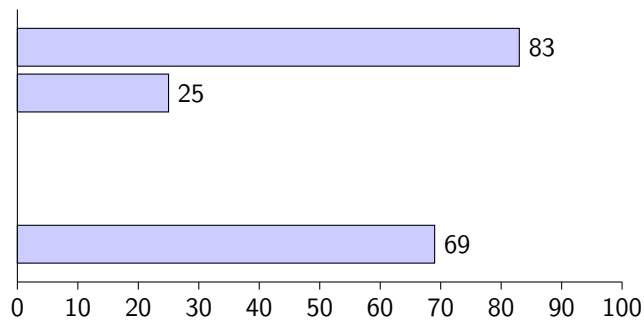
4 Skips

Small, medium and big skips:

```
\begin{bchart}[step=2,max=10]
  \bcbar{3.4}
  \smallskip
  \bcbar{5.6}
  \medskip
  \bcbar{7.2}
  \bigskip
  \bcbar{9.9}
\end{bchart}
```


Skips with `bcskip`:

```
\begin{bchart}[step=10,max=100]
  \bcbar{83}
  \bcskip{3pt}
  \bcbar{25}
  \bcskip{15mm}
  \bcbar{69}
\end{bchart}
```
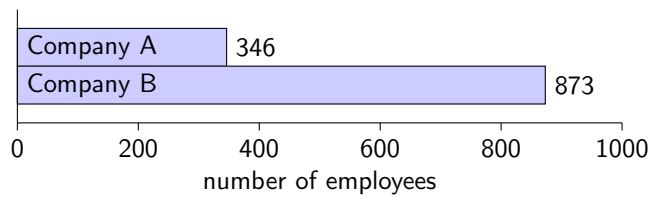

5 Labels

Label for x axis:

```
\begin{bchart}[step=200,max=1000]
  \bcbar[text=Company A]{346}
  \bcbar[text=Company B]{873}
  \bcxlabel{number of employees}
\end{bchart}
```
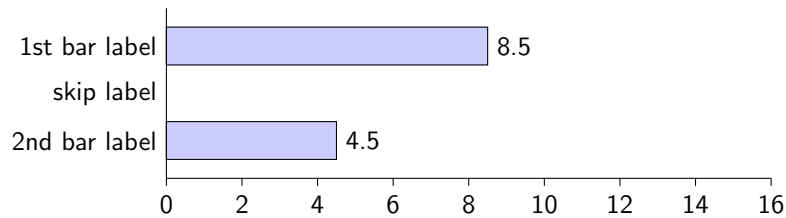

Labels for bars and skips:

```
\begin{bchart}[step=2,max=16]
  \bcbar[label=1st bar label]{8.5}
  \bigskip[label=skip label]
  \bcbar[label=2nd bar label]{4.5}
\end{bchart}
```
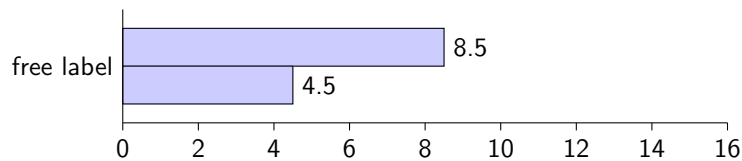

Free labels:

```
\begin{bchart}[step=2,max=16]
  \bcbar{8.5}
  \bclabel[label=skip label]
  \bcbar{4.5}
\end{bchart}
```
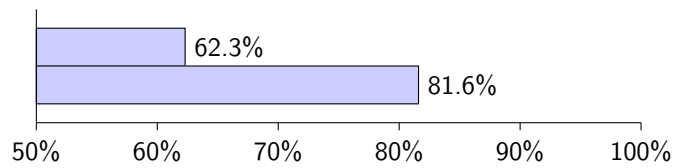

6   Units

Units:

```
\begin{bchart}[min=50,max=100,step=10,unit=\%]
  \bcbar{62.3}
  \bcbar{81.6}
\end{bchart}
```
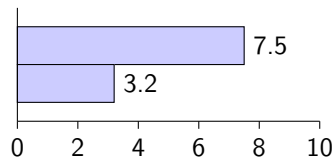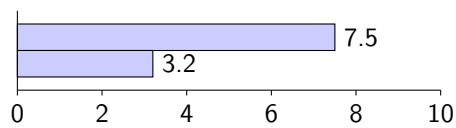
7 Width and Scaling

Width:

```
\begin{bchart}[max=10,step=2,width=4cm]
  \bcbar{7.5}
  \bcbar{3.2}
\end{bchart}
```
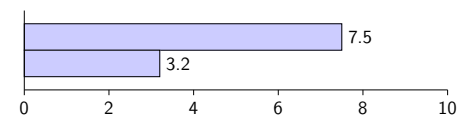

Scale:

```
\begin{bchart}[max=10,step=2,scale=0.7]
  \bcbar{7.5}
  \bcbar{3.2}
\end{bchart}
```


Scale:

```
\scalebox{0.7}{
\begin{bchart}[max=10,step=2]
  \bcbar{7.5}
  \bcbar{3.2}
\end{bchart}}
```
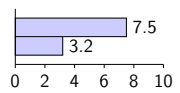

Combined:

```
\scalebox{0.7}{
\begin{bchart}[max=10,step=2,width=4cm,scale=0.7]
  \bcbar{7.5}
  \bcbar{3.2}
\end{bchart}}
```
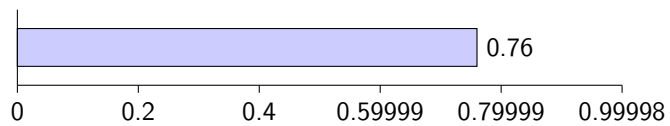

8   Known Issues

```
\begin{bchart}[step=0.2,max=1]
  \bcbar{0.76}
\end{bchart}
```



```
\begin{bchart}[steps={0.2,0.4,0.6,0.8,1},max=1]
  \bcbar{0.76}
\end{bchart}
```