1 Introduction

Neither the \texttt{mathbb} font of \texttt{AMS} provided by the package of \texttt{amsfonts} or \texttt{amssymb} nor the blackboard bold or double stroke fonts provided by packages of \texttt{mathbbold}, \texttt{mathbbol}, \texttt{bbm}, \texttt{mathds} and so on are well compatible with the Computer Modern font family default in \texttt{LATEX} because of stroke characteristics or line weights. So it may be necessary to create a new mathbb font. The new mathbb font was designed by Conden Chao with Adobe Illustrator 2018 and FontLab 7 on September 9–15, 2020 and the package was created by Saravanan Murugaiah on September 10–17, 2020. We call the new mathbb font and the package as \texttt{cmathbb} which is a shorthand for “Computer Modern Mathematical Blackboard Bold”.

2 Usage

This \texttt{cmathbb} font can be used not only with Computer Modern font family but also with all the fonts in the \texttt{LATEX} document by putting the following codes in the preamble:

\begin{verbatim}
\usepackage{cmathbb}
\end{verbatim}

Then you can use the default command \texttt{\textbackslash mathbb} or \texttt{\textbackslash CMath} in the mathematical environment to call the characters, for which \texttt{\textbackslash mathbb} consistent with habits of most users is strongly recommended. Note that the \texttt{cmathbb} package invokes the \texttt{amsfonts} package in default.

You can use any command such as \texttt{LATEX}, PDF\texttt{LATEX}, X\texttt{\textbackslash LATEX}, X\texttt{\textbackslash \textbackslash LATEX}, Lua\texttt{\textbackslash LATEX} and so on to compile the document involving the \texttt{cmathbb} package.

3 Symbols

The \texttt{cmathbb} package can call all the digits, and Latin letters uppercase and lowercase of which appearances\footnote{zhaoxy000126.com. Thanks to Donald Knuth, who created Computer Modern font family in 1977–1979, and also thanks to Barbara Beeton who to some extent motivates me to design the \texttt{cmathbb} font.} are as follows.

\begin{verbatim}
\usepackage{cmathbb}
\end{verbatim}

\section*{Acknowledgments}

Thanks to Erik Braun of the Comprehensive \texttt{\textbackslash LATEX} Archive Network (\texttt{CTAN}) team for his good advice on improving the files.

\footnote{zhaoxy000126.com. Thanks to Donald Knuth, who created Computer Modern font family in 1977–1979, and also thanks to Barbara Beeton who to some extent motivates me to design the \texttt{cmathbb} font.}

\footnote{saravanan.murugaiah@gmail.com. Thanks to Erik Braun of the Comprehensive \texttt{\textbackslash LATEX} Archive Network (\texttt{CTAN}) team for his good advice on improving the files.}

\footnote{\texttt{mathrm{Greek}} letters uppercase and lowercase can be also called in the future. And as noted in Section 2, we can use \texttt{\textbackslash CMath} instead of \texttt{\textbackslash mathbb} too.}
4 Notes

Permission is granted to copy, distribute and modify the cmathbb font and package but thanks to the authors are appreciated. All the advice on the cmathbb font could be sent to Conden Chao, while any problem produced in using the cmathbb package should be sent to Saravanan Murugaiah.

5 History

- 2020-09-17 Conden Chao uploaded the camthbb package to the CTAN.
- 2020-09-17 Saravanan Murugaiah finished writing the camthbb package.
- 2020-09-15 Conden Chao finished designing the camthbb font.
- 2020-09-10 Saravanan Murugaiah began to write the camthbb package.
- 2020-09-09 Conden Chao began to design the cmathbb font.