1 Introduction
This file defines all the symbols found in the AMS symbol fonts \texttt{msam} and \texttt{msbm}.

2 The Implementation
First provide package identification.
\begin{verbatim}
\NeedsTeXFormat{LaTeX2e}\% LaTeX 2.09 can't be used (nor non-LaTeX)
[1994/12/01]\% LaTeX date must be December 1994 or later
\ProvidesPackage{amssymb}[2013/01/14 v3.01 AMS font symbols]
\end{verbatim}

See the \texttt{amsfonts} package documentation for a discussion of the obsolescence of the \texttt{psamfonts} option.
\begin{verbatim}
\DeclareOption{psamsfonts}{\PassOptionsToPackage{psamsfonts}{amsfonts}}
\ProcessOptions\relax
\end{verbatim}

We call the \texttt{amsfonts} package to do the font setup that we need.
\begin{verbatim}
\RequirePackage{amsfonts}[1995/01/01]
\@ifpackageloaded{stix}{%
  \PackageWarningNoLine{amssymb}{The 'amssymb' package is redundant when
    you are using the 'stix' package, so I'm not going to load amssymb}
  \endinput
}{%}
\end{verbatim}

We undefine a few symbols that were perhaps defined by the \texttt{amsfonts} package (q.v.); otherwise \texttt{DeclareMathSymbol} would issue some error messages. (All these symbol names are \texttt{\let} to the first defined; that way, if the underlying code changes, only one change needs to be made here.)
\begin{verbatim}
\let\square\relax \let\rightsquigarrow\square \let\lozenge\square
\let\vartriangleright\square \let\vartriangleleft\square
\let\trianglerighteq\square \let\trianglelefteq\square
\end{verbatim}

Change the \texttt{\catcode} of the double-quote character to ensure that it is not active (which at one time was a problem when something like \texttt{german.sty} was used). This means that \texttt{\let} statements must be made global.
\begin{verbatim}
\begingroup \catcode"=12
\end{verbatim}
Now we define the complete set of standard symbol names for the \texttt{msam} and \texttt{msbm} fonts. Redefinitions of symbols or commands which can’t be defined via \texttt{\DeclareMathSymbol} are already done in the \texttt{amsfonts} package (for example, \texttt{\yen}, \texttt{\widehat}).

\begin{verbatim}
\DeclareMathSymbol{\boxdot}    {\mathbin}{AMSa}{"00}
\DeclareMathSymbol{\boxplus}   {\mathbin}{AMSa}{"01}
\DeclareMathSymbol{\boxtimes}  {\mathbin}{AMSa}{"02}
\DeclareMathSymbol{\square}    {\mathord}{AMSa}{"03}
\DeclareMathSymbol{\blacksquare}{\mathord}{AMSa}{"04}
\DeclareMathSymbol{\lozenge}   {\mathord}{AMSa}{"05}
\DeclareMathSymbol{\centerdot} {\mathbin}{AMSa}{"06}
\DeclareMathSymbol{\blacklozenge}{\mathord}{AMSa}{"07}
\DeclareMathSymbol{\circlearrowright} {\mathrel}{AMSa}{"08}
\DeclareMathSymbol{\circlearrowleft}{\mathrel}{AMSa}{"09}
\global\let\restriction\upharpoonright
\DeclareMathSymbol{\rightleftharpoons}{\mathrel}{AMSa}{"0A}
\DeclareMathSymbol{\rightleftharpoons}{\mathrel}{AMSa}{"0B}
\DeclareMathSymbol{\boxminus}  {\mathbin}{AMSa}{"0C}
\DeclareMathSymbol{\Vdash}     {\mathrel}{AMSa}{"0D}
\DeclareMathSymbol{\Vvdash}    {\mathrel}{AMSa}{"0E}
\DeclareMathSymbol{\between}   {\mathrel}{AMSa}{"0F}
\DeclareMathSymbol{\leftrightarrow} {\mathrel}{AMSa}{"10}
\DeclareMathSymbol{\leftarrow} {\mathrel}{AMSa}{"11}
\DeclareMathSymbol{\rightarrow} {\mathrel}{AMSa}{"12}
\DeclareMathSymbol{\uparrow}   {\mathrel}{AMSa}{"13}
\DeclareMathSymbol{\downarrow} {\mathrel}{AMSa}{"14}
\DeclareMathSymbol{\upharpoonright} {\mathrel}{AMSa}{"15}
\DeclareMathSymbol{\downharpoonright}{\mathrel}{AMSa}{"16}
\global\let\restriction\upharpoonright
\DeclareMathSymbol{\downharpoonright}{\mathrel}{AMSa}{"17}
\DeclareMathSymbol{\upharpoonleft} {\mathrel}{AMSa}{"18}
\DeclareMathSymbol{\downharpoonleft}{\mathrel}{AMSa}{"19}
\DeclareMathSymbol{\rightharpoonup} {\mathrel}{AMSa}{"1A}
\DeclareMathSymbol{\leftharpoonup} {\mathrel}{AMSa}{"1B}
\DeclareMathSymbol{\leftrightharpoons}{\mathrel}{AMSa}{"1C}
\DeclareMathSymbol{\circlearrowright} {\mathrel}{AMSa}{"1D}
\DeclareMathSymbol{\Leftarrow}  {\mathrel}{AMSa}{"1E}
\DeclareMathSymbol{\Rightarrow} {\mathrel}{AMSa}{"1F}
\end{verbatim}
2. THE IMPLEMENTATION

\DeclareMathSymbol{\doteqdot} {\mathrel}{AMSa}{"2B}
\global\let\Doteq\doteqdot
\DeclareMathSymbol{\triangleq} {\mathrel}{AMSa}{"2C}
\DeclareMathSymbol{\precsim} {\mathrel}{AMSa}{"2D}
\DeclareMathSymbol{\lesssim} {\mathrel}{AMSa}{"2E}
\DeclareMathSymbol{\lessapprox} {\mathrel}{AMSa}{"2F}
\DeclareMathSymbol{\eqslantless} {\mathrel}{AMSa}{"30}
\DeclareMathSymbol{\eqslantgtr} {\mathrel}{AMSa}{"31}
\DeclareMathSymbol{\curlyeqprec} {\mathrel}{AMSa}{"32}
\DeclareMathSymbol{\curlyeqsucc} {\mathrel}{AMSa}{"33}
\DeclareMathSymbol{\preccurlyeq} {\mathrel}{AMSa}{"34}
\DeclareMathSymbol{\leq} {\mathrel}{AMSa}{"35}
\DeclareMathSymbol{\leqslant} {\mathrel}{AMSa}{"36}
\DeclareMathSymbol{\lessgtr} {\mathrel}{AMSa}{"37}
\DeclareMathSymbol{\backprime} {\mathord}{AMSa}{"38}
\DeclareMathSymbol{\risingdotseq} {\mathrel}{AMSa}{"3A}
\DeclareMathSymbol{\fallingdotseq} {\mathrel}{AMSa}{"3B}
\DeclareMathSymbol{\succcurlyeq} {\mathrel}{AMSa}{"3C}
\DeclareMathSymbol{\geq} {\mathrel}{AMSa}{"3D}
\DeclareMathSymbol{\geqslant} {\mathrel}{AMSa}{"3E}
\DeclareMathSymbol{\gtrless} {\mathrel}{AMSa}{"3F}
\DeclareMathSymbol{\sqsubset} {\mathrel}{AMSa}{"40}
\DeclareMathSymbol{\sqsupset} {\mathrel}{AMSa}{"41}
\DeclareMathSymbol{\vartriangleright} {\mathrel}{AMSa}{"42}
\DeclareMathSymbol{\vartriangleleft} {\mathrel}{AMSa}{"43}
\DeclareMathSymbol{\trianglerighteq} {\mathrel}{AMSa}{"44}
\DeclareMathSymbol{\trianglelefteq} {\mathrel}{AMSa}{"45}
\DeclareMathSymbol{\bigstar} {\mathord}{AMSa}{"46}
\DeclareMathSymbol{\between} {\mathrel}{AMSa}{"47}
\DeclareMathSymbol{\blacktriangledown} {\mathord}{AMSa}{"48}
\DeclareMathSymbol{\blacktriangleright} {\mathrel}{AMSa}{"49}
\DeclareMathSymbol{\blacktriangleleft} {\mathrel}{AMSa}{"4A}
\DeclareMathSymbol{\vartriangle} {\mathrel}{AMSa}{"4D}
\DeclareMathSymbol{\blacktriangle} {\mathord}{AMSa}{"4E}
\DeclareMathSymbol{\triangle} {\mathord}{AMSa}{"4F}
\DeclareMathSymbol{\eqcirc} {\mathrel}{AMSa}{"50}
\DeclareMathSymbol{\lesseqgtr} {\mathrel}{AMSa}{"51}
\DeclareMathSymbol{\gtreqless} {\mathrel}{AMSa}{"52}
\DeclareMathSymbol{\lesseqqgtr} {\mathrel}{AMSa}{"53}
\DeclareMathSymbol{\gtreqqless} {\mathrel}{AMSa}{"54}
\DeclareMathSymbol{\Rightarrow} {\mathrel}{AMSa}{"56}
\DeclareMathSymbol{\Leftarrow} {\mathrel}{AMSa}{"57}
\DeclareMathSymbol{\veebar} {\mathbin}{AMSa}{"59}
\DeclareMathSymbol{\barwedge} {\mathbin}{AMSa}{"5A}
\DeclareMathSymbol{\doublebarwedge} {\mathbin}{AMSa}{"5B}
\DeclareMathSymbol{\angle} {\mathord}{AMSa}{"5C}
\DeclareMathSymbol{\measuredangle} {\mathord}{AMSa}{"5D}
\DeclareMathSymbol{\sphericalangle} {\mathord}{AMSa}{"5E}
\[ \text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash varpropto\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"5F}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash smallsmile\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"60}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash smallfrown\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"61}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash Subset\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"62}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash Supset\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"63}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash Cup\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"64}\}} \\
\text{\texttt{\textbackslash global\{} \texttt{\textbackslash let\{} \texttt{\textbackslash doublecup\{} \texttt{\textbackslash Cup\}}} \\
\text{\texttt{\textbackslash global\{} \texttt{\textbackslash let\{} \texttt{\textbackslash doublecap\{} \texttt{\textbackslash Cap\}}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash curlywedge\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"66}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash curlyvee\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"67}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash leftthreetimes\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"68}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash righththetimes\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"69}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash subseteqq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6A}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash supseteqq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6B}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash bumpeq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6C}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash Bumpeq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6D}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash lll\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6E}\}} \\
\text{\texttt{\textbackslash global\{} \texttt{\textbackslash let\{} \texttt{\textbackslash lless\{} \texttt{l\}}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash ggg\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"6F}\}} \\
\text{\texttt{\textbackslash global\{} \texttt{\textbackslash let\{} \texttt{\textbackslash ggtr\{} \texttt{g\}}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash circledS\}}} \quad \{	exttt{\textbackslash mathord\{}\texttt{AMSa}\{	exttt{"73}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash pitchfork\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"74}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash dotplus\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"75}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash backsim\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"76}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash backsimneq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSa}\{	exttt{"77}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash complement\}}} \quad \{	exttt{\textbackslash mathord\{}\texttt{AMSa}\{	exttt{"78}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash intercal\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"79}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash circledcirc\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"7A}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash circledast\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"7B}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash circleddash\}}} \quad \{	exttt{\textbackslash mathbin\{}\texttt{AMSa}\{	exttt{"7C}\}} \\
\text{\texttt{\% \ Begin AMSb declarations}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash lvertneqq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"00}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash gvertneqq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"01}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash unleq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"02}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash ngeq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"03}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nless\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"04}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash ngr\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"05}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nprec\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"06}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nsucc\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"07}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nleqslant\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"08}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash gneq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"09}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nleqslant\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0A}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash ngeqslant\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0B}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nleq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0C}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash gneq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0D}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash npreceq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0E}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash nsucceq\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"0F}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash precnsim\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"10}\}} \\
\text{\texttt{\textbackslash DeclareMathSymbol\{} \texttt{\textbackslash succnsim\}}} \quad \{	exttt{\textbackslash mathrel\{}\texttt{AMSb}\{	exttt{"11}\}}
2. THE IMPLEMENTATION
Now we close the group so that \texttt{\textbackslash catcode} will get its old value back.

\endgroup

The usual \texttt{\textbackslash endinput} to ensure that random garbage at the end of the file doesn't get copied by \texttt{docstrip}.

\endinput