ximera — Simultaneously write print and online interactive materials.*

Jim Fowler Jeramiah Hocutt Oscar Levin Jason Nowell Wim Obbels Hans Parshall Bart Snapp

Released 2024/05/12

Abstract

"Ximera begins where TEX ends." The ximera class aids in the creation of handouts, worksheets, exercises, and sections of textbooks to be used either individually or "glued" together via a xourse file. All ximera documents can be deployed in an online interactive form via xake See: Ximera Project and the source code on GitHub.

1 Introduction

Ximera, pronounced "chimera," (Ximera: Interactive, Mathematics, EResources, for All) is an open-source platform that provides tools for authoring and publishing (PDF and Online), open-source, interactive educational content, such as textbooks, assessments, and online courses. The Ximera document class provides the following features:

Formatting for different domains The Ximera document class provides built-in support for formatting documents in both PDF and online formats, which can be a big time-saver for authors. Additionally, it allows for the simultaneous creation of solution manuals and teaching editions, which can be especially useful for educators.

Compiling individually or as a whole With the Ximera document class, authors can easily compile individual documents or an entire collection of documents. This flexibility can be helpful when making changes to specific documents without having to re-compile the entire collection. Moreover, this allows an author to share large portions of a text with another, with minimal changes.

Interactive content The Ximera document class allows for the inclusion of interactive content, such as answer boxes that are validated by a client-side computer algebra system. Additionally, it allows for the embedding of YouTube videos, Desmos graphs, and GeoGebra interactives.

All content displayed By default, the Ximera document class displays all content to the author. This means the author see what the students see, along with answers and solutions, and links (that can be checked) to various interactive elements (when deployed, the interactive elements are truly embedded). This can be especially helpful for catching errors or inconsistencies in the content.

Online examples can be found at

https://go.osu.edu/ximera-examples

^{*}This file describes version v1.5.1, last revised 2024/05/12.

2 ximera.cls

- 1 (*classXimera)
- 2 \newif\ifnumberedProblems
- 3 \numberedProblemsfalse% Default to no numbers, as that was previous behavior.
- 4 \DeclareOption{onlineProblemNumbers}{\numberedProblemstrue}
- 5 (/classXimera)

2.1 Options for the class

We start by listing the options for the ximera document class. Note, since the xourse class is based on the ximera class, all listed options are available there too.

```
6 (*classXimera)
```

The default behavior of the class is to display **all** content. This means that if any questions are asked, all answers are shown. Moreover, some content will only have a meaningful presentation when displayed online. When compiled without any options, this content will be shown too. This option will supress such content and generate a reasonable printiable "handout."

- 7 \newif\ifhandout
- 8 \handoutfalse
- 9 \DeclareOption{handout}{\handouttrue}

By default, authors are listed at the bottom of the first page of a document. This option will supress the listing of the authors.

- 10 \newif\ifnoauthor
- 11 \noauthorfalse
- 12 \DeclareOption{noauthor}{\noauthortrue}

By default, learning outcomes are listed at the bottom of the first page of a document. This option will supress the listing of the learning outcomes.

- 13 \newif\ifnooutcomes
- $14 \setminus nooutcomesfalse$
- 15 \DeclareOption{nooutcomes}{\nooutcomestrue}

instructornotes This option will turn on (and off) notes written for the instructor.

- 16 \newif\ifinstructornotes
- 17 \instructornotesfalse
- 18 \DeclareOption{instructornotes}{\instructornotestrue}

noinstructornotes This option will turn off (and on) notes written for the instructor.

19 \DeclareOption{noinstructornotes}{\instructornotestrue}

hints When the handout options is used, hints are not shown. This option will make hints visible in handout mode.

- 20 \newif\ifhints
- 21 \hintsfalse
- 22 \DeclareOption{hints}{\hintstrue}

newpage This option will start each problem-like environment (exercise, question, problem, and exploration) start on a new page.

- 23 \newif\ifnewpage
- 24 \newpagefalse
- $25 \ensuremath{\mbox{\sc Newpage}} {\mbox{\sc Newpagetrue}} \\$

numbers This option will number the titles of the activity. By default the activities are unnumbered

- $26 \neq 16$
- 27 \numbersfalse
- 28 \DeclareOption{numbers}{\numberstrue}

wordchoicegiven This option will replace the choices shown by wordChoice with the correct choice. No indication of the wordChoice environment will be shown.

```
29 \newif\ifwordchoicegiven
30 \wordchoicegivenfalse
31 \DeclareOption{wordchoicegiven}{\wordchoicegiventrue}
32 \mbox{\ensuremath{\mbox{\sc Number} other}}\mbox{\sc Command contents.}
33 \firstinlinechoicetrue
35 \newif\ifxake
36 \xakefalse
37 \DeclareOption{xake}{\xaketrue}
39 \newif\iftikzexport
40 \tikzexportfalse
41 \DeclareOption{tikzexport}{%
    \tikzexporttrue%
42
    \handoutfalse%
    \numbersfalse%
44
45
    \newpagefalse%
46
    \hintsfalse%
47
    \nooutcomesfalse%
48 }
49
50 \DeclareOption*{%
    \PassOptionsToClass{\CurrentOption}{article}%
51
52 }
53 \ProcessOptions\relax
54 \LoadClass{article}
56 \ifdefined\HCode
   \xaketrue%
57
    \tikzexporttrue%
58
    \handoutfalse%
59
    \numbersfalse%
60
   \newpagefalse%
61
   \hintsfalse%
63 \nooutcomesfalse%
64\fi
65 (/classXimera)
66 (*classXimera)
```

2.2 Loading packages

Since we want \cancel to work, we load it here to avoid polluting the .jax output.

67 \RequirePackage[makeroom]{cancel}

Quite a few packages are required by the document class. This is a list of required packages. As packages are added to this list, we should include a comment as to where they are being utilized. This will help keep this list from being redundant and/or outdated.

```
68 \RequirePackage[inline] \{enumitem\}
69 \RequirePackage[pagestyles] \{titlesec\}
70 \RequirePackage\{titletoc\}
71 \RequirePackage\{titling\}
72 \RequirePackage\{url\}
73 \RequirePackage\{url\}
74 \RequirePackage\{tikz\}
75 \RequirePackage\{pfplots\}
76 \usepgfplotslibrary\{groupplots\}
77 \usetikzlibrary\{calc\}
78 \RequirePackage\{fancyvrb\}
```

```
Load forloop for the problem environment dynamic naming and building.
 79 \RequirePackage{forloop}
Now we load even more packages.
 80 \RequirePackage{environ}\% Included to allow saving of environment contents. This does *not* 1
 81 \RequirePackage{amssymb}% Included to have access to math typeset.
 82 \RequirePackage{amsmath}% Included to have access to math typeset.
 83 \RequirePackage{amsthm}% Included to have access to math typeset.
 84 \RequirePackage{xifthen}% http://ctan.org/pkg/xifthen
 85 \RequirePackage{multido}% http://ctan.org/pkg/multido
 86 \RequirePackage{listings} %% is this required???
 87
 88 \RequirePackage{xkeyval}
 89
 90 \RequirePackage{currfile}
 91 \RequirePackage{comment}
 92 (/classXimera)
Various packages must be loaded early to avoid polluting the .jax file.
 93 (*classXimera)
 94 \RequirePackage{gettitlestring}
 95 \RequirePackage{nameref}
 96 \RequirePackage{epstopdf}
 97 (/classXimera)
2.3
      Page setup
We want non-indented spaced-out paragraphs.
 98 \langle *classXimera \rangle
 99 \setlength{\parindent}{0pt}
 100 \setlength{\parskip}{5pt}
 101 (/classXimera)
To avoid weird margins in 2-sided mode, change the margins.
102 (*classXimera)
103 \oddsidemargin 62pt
 104 \evensidemargin 62pt
 105 \textwidth 345pt
 106 \headheight 14pt
107 (/classXimera)
On the HTML side, there is more complicated page setup to perform.
 108 (*cfgXimera)
109 \Preamble{xhtml,mathjax}
111 % We don't want to translate font suggestions with ugly wrappers like
112 % <span class="cmti-10"> for italic text
113 \NoFonts
115 % Don't output xml version tag
116 % \Configure{VERSION}{}
118 \% Output HTML5 doctype instead of the default for HTML4
119 % \Configure{DOCTYPE}{\HCode{<!doctype html>\Hnewline}}
121 % Custom page opening
 122 % \Configure{HTML}{\HCode{<html lang="en">\Hnewline}}{\HCode{\Hnewline</html>}}
124\,\% Reset <head>, aka delete all default boilerplate; alternatively set up new content
125 % \Configure{@HEAD}{\HCode{<meta name="generator" content="TeX4ht (http://www.cse.ohio-state
```

129

126 \Configure{@HEAD}{\HCode{<meta name="ximera" content="version 2.5.1" />\Hnewline}}

127 \Configure{@HEAD}{\HCode{<link href="https://ximera.osu.edu/public/stylesheets/standalone.cs:
128 \Configure{@HEAD}{\HCode{<script type="text/javascript" async src="https://ximera.osu.edu/public/stylesheets/standalone.cs:

```
131 \catcode '\%=11
 132 \Configure{@BODY}{\HCode{<style>
133 .activity-body pre {
134
        white-space: pre;
        background-color: lightgray;
135
136 }
137 .xmyoutube {
        aspect-ratio: 16/9;
138
        min-width: 75%;
139
141 .image-environment img {
142
        width: unset;
143 }
144 </style>\Hnewline}}
145 \catcode '\%=14
146
147 (/cfgXimera)
Disable certain ligatures in HTML.
148 (*htXimera)
 149 \usepackage{microtype}
 150 \DisableLigatures[f]{encoding=*}
 151 (/htXimera)
I am not sure what this does.
 152 (*htXimera)
 153 \NewEnviron{html}{\HCode{\BODY}}
 154 (/htXimera)
2.4
      Structure
2.4.1 Macros
Makes everymath display style even when inline, could be optional.
155 (*classXimera)
 156 \everymath{\displaystyle}
 157 (/classXimera)
Ok not everything, we also need to configure "display style" limits.
 158 (*classXimera)
 159 \let\prelim\lim
 160 \renewcommand{\lim}{\displaystyle\prelim}
 161 (/classXimera)
       Theorem and theorem-like environments
On the web, a theorem is emitted as a special <div>.
162 (*htXimera)
163 \newcommand{\ConfigureTheoremEnv}[1]{%
164 \renewenvironment{#1}[1][]{\refstepcounter{problem}%
 165 \ifthenelse{\equal{##1}{}}{}{%
      \HCode{<span class="theorem-like-title">}##1\HCode{</span>}%
 167 }}{}
 168 \ConfigureEnv{#1}{\stepcounter{identification}\ifvmode \IgnorePar\fi \EndP\HCode{<div class=
169 }
 171 (classXimera)\theoremstyle{definition} % No italic (because this makes also text in TikZ itali
   The key is to make sure that the theorem environments are defined in a corresponding
fashion on the web and on paper.
   Theorem
 172 (classXimera)
                      \newtheorem{theorem}{\GetTranslation{Theorem}}
```

130 % OVERWRITE css in ximera-server (to be removed whenever this has been fixed in the server;

\ConfigureTheoremEnv{theorem}

theorem (env.)

173 (htXimera)

algorithm (env.)	Algorithm	
	174 ⟨classXimera⟩ 175 ⟨htXimera⟩	lem:lem:lem:lem:lem:lem:lem:lem:lem:lem:
$\verb"axiom" (env.)$	Axiom	
	$176 \langle classXimera \rangle$ $177 \langle htXimera \rangle$	<pre>\newtheorem{axiom}{\GetTranslation{Axiom}} \ConfigureTheoremEnv{axiom}</pre>
${\tt claim}\;(env.)$	Claim	
	$178 \langle classXimera \rangle$ $179 \langle htXimera \rangle$	<pre>\newtheorem{claim}{\GetTranslation{Claim}} \ConfigureTheoremEnv{claim}</pre>
conclusion (env.)	Conclusion	
	$180 \langle classXimera \rangle$ $181 \langle htXimera \rangle$	<pre>\newtheorem{conclusion}{\GetTranslation{Conclusion}} \ConfigureTheoremEnv{conclusion}</pre>
$\verb"condition" (env.)$	Condition	
	$_{182}$ $\langle classXimera angle$ $_{183}$ $\langle htXimera angle$	<pre>\newtheorem{condition}{\GetTranslation{Condition}} \ConfigureTheoremEnv{condition}</pre>
$\verb conjecture (env.)$	Conjecture	
	184 ⟨classXimera⟩ 185 ⟨htXimera⟩	<pre>\newtheorem{conjecture}{\GetTranslation{Conjecture}} \ConfigureTheoremEnv{conjecture}</pre>
$\verb corollary (env.)$	Corollary	
	186 ⟨classXimera⟩ 187 ⟨htXimera⟩	<pre>\newtheorem{corollary}{\GetTranslation{Corollary}} \ConfigureTheoremEnv{corollary}</pre>
$\verb criterion (env.)$	Criterion	
	188 ⟨classXimera⟩ 189 ⟨htXimera⟩	<pre>\newtheorem{criterion}{\GetTranslation{Criterion}} \ConfigureTheoremEnv{criterion}</pre>
${\tt definition}\;(env.)$	Definition	
	190 $\langle classXimera \rangle$ 191 $\langle htXimera \rangle$	<pre>\newtheorem{definition}{\GetTranslation{Definition}} \ConfigureTheoremEnv{definition}</pre>
$\mathtt{example}\ (\mathit{env.})$	Example	
	192 ⟨classXimera⟩ 193 ⟨htXimera⟩	<pre>\newtheorem{example}{\GetTranslation{Example}} \ConfigureTheoremEnv{example}</pre>
$\verb explanation (env.)$	Explanation	
	194 (classXimera) 195 (htXimera)	<pre>\newtheorem*{explanation}{\GetTranslation{Explanation}} \ConfigureTheoremEnv{explanation}</pre>
$\mathtt{fact}\ (\mathit{env.})$	Fact	
	$_{196}$ $\langle classXimera angle$ $_{197}$ $\langle htXimera angle$	<pre>\newtheorem{fact}{\GetTranslation{Fact}} \ConfigureTheoremEnv{fact}</pre>
$\mathtt{lemma}\;(env.)$	Lemma	
	$_{198}$ $\langle classXimera angle$ $_{199}$ $\langle htXimera angle$	<pre>\newtheorem{lemma}{\GetTranslation{Lemma}} \ConfigureTheoremEnv{lemma}</pre>
$\mathtt{formula}\;(env.)$	Formula	
	$200 \langle classXimera \rangle$ $201 \langle htXimera \rangle$	<pre>\newtheorem{formula}{\GetTranslation{Formula}} \ConfigureTheoremEnv{formula}</pre>
${ t idea}\;(env.)$	Idea	
	$202 \langle classXimera \rangle$ $203 \langle htXimera \rangle$	<pre>\newtheorem{idea}{\GetTranslation{Idea}} \ConfigureTheoremEnv{idea}</pre>
${\tt notation}\;(env.)$	Notation	
	$204 \; \langle \text{classXimera} \rangle$ $205 \; \langle \text{htXimera} \rangle$	<pre>\newtheorem{notation}{\GetTranslation{Notation}} \ConfigureTheoremEnv{notation}</pre>
${\tt model}\ (\mathit{env.})$	Model	
	$206 \langle classXimera \rangle$ $207 \langle htXimera \rangle$	<pre>\newtheorem{model}{\GetTranslation{Model}} \ConfigureTheoremEnv{model}</pre>
${\tt observation} \; (\mathit{env.})$	Observation	
	208 ⟨classXimera⟩ 209 ⟨htXimera⟩	$\label{lem:configureTheoremEnv} $$\operatorname{ConfigureTheoremEnv}(\configureTheoremEnv})$$$

```
proposition (env.)
                                                                  Proposition
                                                          210 (classXimera)
                                                                                                                            \newtheorem{proposition}{\GetTranslation{Proposition}}
                                                          211 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{proposition}
                                                                   Paradox
            paradox (env.)
                                                          212 (classXimera)
                                                                                                                            \newtheorem{paradox}{\GetTranslation{Paradox}}
                                                          213 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{paradox}
      procedure (env.)
                                                                   Procedure
                                                           214 (classXimera)
                                                                                                                            \newtheorem{procedure}{\GetTranslation{Procedure}}
                                                          215 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{procedure}
               remark (env.)
                                                                  Remark
                                                          216 (classXimera)
                                                                                                                            \newtheorem{remark}{\GetTranslation{Remark}}
                                                          217 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{remark}
                                                                  Summary
            summary (env.)
                                                          218 (classXimera)
                                                                                                                            \newtheorem{summary}{\GetTranslation{Summary}}
                                                          219 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{summary}
         template (env.)
                                                                  Template
                                                          220 (classXimera)
                                                                                                                            \newtheorem{template}{\GetTranslation{Template}}
                                                          221 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{template}
            warning (env.)
                                                                   Warning
                                                           222 (classXimera)
                                                                                                                            \newtheorem{warning}{\GetTranslation{Warning}}
                                                          223 (htXimera)
                                                                                                                     \ConfigureTheoremEnv{warning}
                                                        2.4.3 Enumerate fixes
                                                        Make enumerate use a letter
                                                          224 (*classXimera)
                                                          225 \renewcommand{\theenumi}{\textup{(\alph{enumi})}}
                                                          226 \renewcommand{\labelenumi}{\theenumi}
                                                          227 \renewcommand{\theenumii}{\textup{(\roman{enumii})}}
                                                          228 \renewcommand{\labelenumii}{\theenumii}
                                                          229 (/classXimera)
                                                        2.4.4 Proofs
                  proof (env.) A mathematical proof environment.
                                                          230 (*classXimera)
                                                          231 \renewcommand{\qedsymbol}{$\blacksquare$}
                                                          232 \renewenvironment{proof}[1][\proofname]
                                                                           \label{limit} $$ \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{h \in \mathbb{Z}} \frac{1}{h \cdot h} \right) = \left( \sum_{
                                                          234 {\qed\end{trivlist}}
                                                          235 (/classXimera)
                                                          236 (*htXimera)
                                                                                        % Mmm, (why) do we want/need this ...?
                                                          237
                                                                                        \ConfigureTheoremEnv{proof}
                                                          239 \verb|\ConfigureEnv{proof}{\ifvmode\IgnorePar\fi\EndP\HCode{<div class="proof">}} \\
                                                           240 \configureList{trivlist}{\ifvmode\IgnorePar\fi\EndP}{}{}
                                                          241 }{\ifvmode\IgnorePar\fi\EndP\HCode{</div>}}{}{}
                                                          242 (/htXimera)
```

2.4.5 Problem environments

These are problem environment decorations (these should be user invoked, not default). The decoration for these environments were inspired by http://tex.stackexchange.com/questions/11098/nice-formatting-for-theorems
243 (*classXimera)

```
244 \newcommand{\hang}{% top theorem decoration
      \begingroup%
246
      \setlength{\unitlength}{.005\linewidth}% \linewidth/200
247 \begin{picture}(0,0)(1.5,0)%
     \linethickness{1pt} \color{black!50}%
      \t(-3,2){\line(1,0){206}}\% Top line
      \mbox{multido}(iA=2+-1,\iB=50+-10){5}{\%} Top hangs
250
251 \color{black!\iB}%
252 \neq (-3, iA){\langle 0,-1 \rangle_{1}}\% Top left hang
253 %\put(203,\iA){\line(0,-1){1}}% Top right hang
255 \end{picture}%
256
      \endgroup%
257 }%
258 \newcommand{\hung}{% bottom theorem decoration
      \nobreak
259
      \begingroup%
260
261 \setlength{\unitlength}{.005\linewidth}% \linewidth/200
262 \begin{picture}(0,0)(1.5,0)%
      \linethickness{1pt} \color{black!50}%
      \begin{array}{l} \begin{array}{l} \begin{array}{l} \begin{array}{l} \\ \\ \end{array} \end{array} Bottom line
264
      \mbox{multido}(iA=0+1,\iB=50+-10){5}{\%} Bottom hangs
266 \color{black!\iB}%
267 %\put(-3,\iA){\line(0,1){1}}% Bottom left hang
268 \put(203,\iA){\line(0,1){1}}% Bottom right hang
269 \neq (iB,0){line(60,0){10}}% Left fade out
270 }%
271 \neq 0
272
      \endgroup%
273 }%
   Configure environment configuration commands
   The command \problemNumber contains all the format code to determine the number
(and the format of the number) for any of the problem environments.
274 \MakeCounter{Iteration@probCnt}
275 \label{lem:makeCountersproblem} 275 \label{lem:makeCountersproblem}
276 \newcommand{\problemNumber}{
277 % First we determine if we have a counter for this question depth level.
278 \ifcsname c@depth\Roman{problem@Depth}Count\endcsname% Check to see if counter exists
279 %If so, do nothing.
280 \else
281 %If not, create it.
     \expandafter\newcounter{depth\Roman{problem@Depth}Count}
     \expandafter\setcounter{depth\Roman{problem@Depth}Count}{0}
284
     \fi
285
286 \verb|\expandafter\stepcounter{depth\Roman{problem@Depth}Count}|
287 \arabic{depthICount}% The first problem depth, what use to be |\theproblem|.
289 \forloop{Iteration@probCnt}{2}{\arabic{Iteration@probCnt} < \numexpr \value{problem@Depth} +
290 .\expandafter\arabic{depth\Roman{Iteration@probCnt}Count}% Get the problem number of the nex
291 }
293 %%%%% Configure various problem environment commands
294 \Make@Counter{problem@Depth}
295 %%% Configure environments start content
296 \newcommand{\problemEnvironmentStart}[2]{%
297 \verb|\scale= 297| step counter {problem@Depth}|. Started a problem, so we've sunk another problem layer.
298 \def\spaceatend{#1}%
299 \begin{trivlist}%
300 \item[\hskip\labelsep\sffamily\bfseries\GetTranslation{#2} \problemNumber% Determine the cor:
301 ]%
302 \slshape
303 }
```

```
304 %%%% Configure environments end content %%%%%%
305 \newcommand{\problemEnvironmentEnd}{%This configures all the end content for a problem.
306 \stepcounter{problem@Depth}
307 \ifcsname c@depth\Roman{problem@Depth}Count\endcsname
308 \expandafter\ifnum\expandafter\value{depth\Roman{problem@Depth}Count}>0
309 \expandafter\setcounter{depth\Roman{problem@Depth}Count}{0}
310 \fi
311 \fi
312 \addtocounter{problem@Depth}{-2}% Exited a problem so we've exited a problem layer. Need -2
313 \ifhandout
314 \ifnewpage
315 \newpage
316 \fi
317 \fi
318 \end{trivlist}
319 }
320 %% Add a simple command that handles all the problem creation aspects:
321 \newcommand{\createProblemEnv}[2]{% This is a nice command to define a new problem-like envi:
322 \newenvironment{#1}[1][2in]%
323 {%Env start code
324 \problemEnvironmentStart{#1}{#2}
325 }
326 {%Env end code
327 \problemEnvironmentEnd
328 }
329 }
330
331 %%% Now populate the old environment names
333 % Old environments were "problem", "exercise", "exploration", and "question".
334 % Note that you can add content to the start/end code on top of these base code pieces if you
336 % These definitions will be overwritten in ximera.4ht!
337
338 \createProblemEnv{problem}{Problem}
339 \createProblemEnv{exercise}{Exercise}
340 \createProblemEnv{exploration}{Exploration}
341 \createProblemEnv{question}{Question}
_{342} \langle / classXimera \rangle
343 (*htXimera)
344 \newcounter{identification}
345 \setcounter{identification}{0}
346 \newcommand{\ConfigureQuestionEnv}[2]{%
347 \renewenvironment{#1}{
348
     }
     {
349
     ጉ%
350
     \ConfigureEnv{#1}
351
352
     {
353 %
        \ifnumberedProblems% The code below is all to generate online problem numbering if option
        \stepcounter{problem@Depth}% Started a problem, so we've sunk another problem layer.
354 %
355 %
        \ifcsname c@depth\Roman{problem@Depth}Count\endcsname
356 %
        \else
357 %
           \expandafter\newcounter{depth\Roman{problem@Depth}Count}
358 %
          \expandafter\setcounter{depth\Roman{problem@Depth}Count}{0}
359 %
        \verb|\expandafter\stepcounter{depth\Roman{problem@Depth}Count}|
360 %
361 %
        \def\problemNumDisp{
        \arabic{depthICount}% Top Level Problem Number: X.1.1.1.1 Number.
362 %
363 %
        \ifcsname c@depthIICount\endcsname\ifnum\value{problem@Depth}>1 .\arabic{depthIICount}\:
        \ifcsname c@depthIIICount\endcsname\ifnum\value{problem@Depth}>2 .\arabic{depthIIICount}
364 %
        \ifcsname c@depthIVCount\endcsname\ifnum\value{problem@Depth}>3 .\arabic{depthIVCount}\:
365 %
```

\ifcsname c@depthVCount\endcsname\ifnum\value{problem@Depth}>4 .\arabic{depthVCount}\fi

366 %

```
367 %
        \fi\fi\fi\fi
368 %
369 %
      \else
       \def\problemNumDisp{}% Otherwise don't display a problem number.
370
371 % \fi
     \stepcounter{identification}
372
     \ifvmode
373
     \IgnorePar
374
     \fi
375
376 \EndP
377 \HCode{<div role="article" class="problem-environment #1" id="problem\arabic{identification}
378 }
379 {
380 \stepcounter{problem@Depth}
381 \ifcsname c@depth\Roman{problem@Depth}Count\endcsname
382 \end{after\index} expand after \value {\tt depth\Roman\{problem@Depth\}Count\}} > 0
383 \verb|\expandafter\setcounter{depth\Roman{problem@Depth}Count}{0}|
384\fi
385 \fi
386 \addtocounter{problem@Depth}{-2}% Exited a problem so we've exited a problem layer. Need -2
388 \IgnorePar
389 \fi
390 \ \EndP
391 \HCode{</div>}\IgnoreIndent
392 }{}{}%
393 }
394
395 \ConfigureQuestionEnv{problem}{Problem}
396 \ConfigureQuestionEnv{exercise}{Exercise}
397 \ConfigureQuestionEnv{question}{Question}
398 \ConfigureQuestionEnv{exploration}{Exploration}
400 \ifdefined\xmNotHintAsExpandable
    \ConfigureQuestionEnv{hint}{hint} % 2024: hint is no longer a 'question-environment'.
401
402 \fi
403 (/htXimera)
```

2.4.6 Hints

418 {

hint (env.) Hint environments can be embedded inside problems.

```
404 (*classXimera)
```

Create a counter that will track how deeply nested the current hint is

```
405 \newcounter{hintLevel} 406 \setcounter{hintLevel}{0}
```

Create an empty shell to renew

 $407 \newenvironment{hint}{}$

Now we renew the environment as needed, this should allow support for any transition code that treats some parts as a "handout" and some parts as non-handout. renewing the environment on the fly is a bit hacky.

```
408 \renewenvironment{hint}
409 {
     \ifhandout
410
411
      \setbox0\vbox\bgroup
412
      \begin{trivlist}\item[\hskip \labelsep\small\slshape\bfseries \GetTranslation{Hint}:\hspace
413
414
      \small\slshape
415
     \fi
     \stepcounter{hintLevel}
416
417 }
```

```
\ifhandout
                 419
                 420
                       \egroup\ignorespacesafterend
                421
                      \else
                422
                       \end{trivlist}
                 423
                      \fi
                      \verb|\addtocounter{hintLevel}{-1}|
                424
                     }
                425
                426
                427 \ifhints
                     \renewenvironment{hint}{
                428
                      \begin{trivlist}\item[\hskip \labelsep\small\slshape\bfseries \GetTranslation{Hint}:\hspace
                     \small\slshape
                431 }
                432 {
                      \end{trivlist}
                433
                434 }
                435 \fi
                436
                437 (/classXimera)
                2.4.7 Solution
solution (env.) The solution to a problem.
                438 (*classXimera)
                439 %% solution environment
                440\ \ifhandout % what follows is handout behavior
                441 \newenvironment{solution}%
```

```
442
             {%
       \setbox0\vbox\bgroup
443
444
            }
                     {%
445
446
       \egroup
447
448 \ensuremath{\setminus} else
449 \newenvironment{solution}%
450
       \begin{trivlist}
451
       \item[\hskip \labelsep\bfseries \GetTranslation{Solution}:\hspace{2ex}]
452
            }
453
            % %% line at the bottom}
454
455
       \end{trivlist}
456
457
       % (202410: no longer \par\addvspace{.5ex}\nobreak\noindent\hung
458
459 \fi
460
461
462
463 (/classXimera)
```

2.4.8 Code listing environments

code (env.) A code answer environment You cannot use Environ with the fancyvrb/listings package if you want nested environments.

```
464 (*classXimera)
465 \DefineVerbatimEnvironment{code}{Verbatim}{numbers=left,frame=lines,label=Code,labelposition=
466 (/classXimera)
```

python (env.) A python answer environment You cannot use Environ with the fancyvrb/listings package if you want nested environments

```
467 (*classXimera)
```

468 \DefineVerbatimEnvironment{python}{Verbatim}{numbers=left,frame=lines,label=Python,labelpositions} 469 (/classXimera)

```
javascriptCode (env.) A JavaScript answer environment Unfortunately the name javascript is already used
                                         for the actual, executed (!) JavaScript interactive. environments
                                           470 (*classXimera)
                                           471 \label{thm:prop:state} \begin{tabular}{l} 471 \label{thm:prop:
                                           472 (/classXimera)
                                           473 (*cfgXimera)
                                           475 \ScriptEnv{javascriptCode}{\stepcounter{identification}\ifvmode \IgnorePar\fi \EndP\\Code{<d.
                                           476 (/cfgXimera)
                                         On the web, translate verbatim and lstlisting blocks into  elements.
                                           477 %%%<*cfgXimera>
                                           478 %%\ConfigureEnv{verbatim}{\ifvmode\IgnorePar\fi\EndP\HCode{<pre style="white-space: pre; backgrounds.com."}
                                           479 %%\ConfigureEnv{lstlisting}{\ifvmode\IgnorePar\fi\EndP\HCode{}}{\ifvmode\IgnorePar\fi\E
                                           480 %%%</cfgXimera>
                                           481 %%
                                         2.4.9 Dialogues
           dialogue (env.) A dialogue between people.
                                           482 (*classXimera)
                                           483 \newenvironment{dialogue}{%
                                                        \renewcommand\descriptionlabel[1]{\hspace{\labelsep}\textbf{##1:}}
                                                        \begin{description}%
                                           486 }{%
                                           487
                                                        \end{description}%
                                           488 }
                                           489 (/classXimera)
                                         On the web, the resulting <dl> should have an appropriate class set.
                                           490 (*htXimera)
                                           491 \renewenvironment{dialogue}{\begin{description}}{\end{description}}
                                           492
                                           493 \ConfigureList{dialogue}%
                                                        {\EndP\HCode{<dl \a:LRdir class="dialogue">}%
                                           494
                                                              \PushMacro\end:itm
                                           495
                                           496 \global\let\end:itm=\empty}
                                                        {\PopMacro\end:itm \global\let\end:itm \end:itm
                                           498 \EndP\HCode{</dd>\ShowPar}
                                                        {\end:itm \global\def\end:itm{\EndP\Tg</dd>}\HCode{<dt}}
                                                                  class="actor">}\bgroup \bf}
                                                        {\egroup\EndP\HCode{</dt><dd\Hnewline class="speech">}}
                                           502 (/htXimera)
                                         2.4.10 Instructor notes
                                           503 (*classXimera)
                                           504
                                           505 %% instructor intro/instructor notes
                                           506 %%
                                           507 \ifhandout % what follows is handout behavior
                                                   \ifinstructornotes
                                           509
                                                    \newenvironment{instructorIntro}%
                                           510
                                                          \begin{trivlist}
                                           511
                                                          \item[\hskip \labelsep\bfseries \GetTranslation{Instructor Introduction}:\hspace{2ex}]
                                           512
                                           513
                                                                    % %% line at the bottom}
                                           514
                                           515
                                                          \end{trivlist}
                                           516
                                                          \par\addvspace{.5ex}\nobreak\noindent\hung
                                           517
```

518

519

520

}

\newenvironment{instructorIntro}%

```
521
             {%
522
        \setbox0\vbox\bgroup
523
             }
             \mbox{\ensuremath{\mbox{\sc WIf}}} this mysteriously starts breaking
524
                             % remove \ignorespacesafterend
525
        \egroup\ignorespacesafterend
526
             }
527
                     \fi
528
529 \else% for handout, so what follows is default
530 \ifinstructornotes
     \newenvironment{instructorIntro}%
532
                 \setbox0\vbox\bgroup
533
534
      {%
535
         \egroup
536
537
                      \else
538
              \newenvironment{instructorIntro}%
539
540
      {%
541
         \begin{trivlist}
542
         \item[\hskip \labelsep\bfseries \GetTranslation{Instructor Introduction}:\hspace{2ex}]
543
      % %% line at the bottom}
544
      {
545
         \end{trivlist}
546
         \par\addvspace{.5ex}\nobreak\noindent\hung
547
548
549
                      \fi
550 \fi
551
552
553
554
555 %% instructorNotes environment
556\ \mbox{\em handout}\ \% what follows is handout behavior
557 \ifinstructornotes
558 \newenvironment{instructorNotes}%
559
            {%
       \begin{trivlist}
560
561
       \item[\hskip \labelsep\bfseries \GetTranslation{Instructor Notes}:\hspace{2ex}]
562
563
            % %% line at the bottom}
564
            {
       \end{trivlist}
565
       \par\addvspace{.5ex}\nobreak\noindent\hung
566
567
            }
            \else
568
     \newenvironment{instructorNotes}%
569
570
              {%
                 \setbox0\vbox\bgroup
571
572
      {%
573
574
         \egroup
575
576
                      \fi
577 \else% for handout, so what follows is default
578 \ifinstructornotes
579 \newenvironment{instructorNotes}%
580
            {%
       \setbox0\vbox\bgroup
581
            }
582
            {%
583
```

```
\egroup
584
585
586
            \else
587
            \newenvironment{instructorNotes}%
588
               \begin{trivlist}
589
               \item[\hskip \labelsep\bfseries \GetTranslation{Instructor Notes}:\hspace{2ex}]
590
591
                     % %% line at the bottom}
592
593
                     {
               \end{trivlist}
594
595
               \par\addvspace{.5ex}\nobreak\noindent\hung
596
                     }
                            \fi
597
                                    \fi
598
599
600 (/classXimera)
```

2.4.11 Foldable

639 %\else

The package mdframed is used to make pretty foldable, but the amsthm/mdframed conflict also messes up the .jax file so we don't load mdframed when performing the xake step. But even the below isn't enough to fix this.

```
foldable (env.) Does it fold?
                602 (*classXimera)
                603
                604 \colorlet{textColor}{black} \% since textColor is referenced below
                605 \colorlet{background}{white} % since background is referenced below
                606
                607\,\% The core environments. Find results in 4ht file.
                608 %% pretty-foldable
                609 %\iftikzexport
                610 \newenvironment{foldable}{%
                611 }{%
                612 }
                613 %\else
                614 %\renewmdenv[
                615 % font=\upshape,
                616 % outerlinewidth=3,
                617 % topline=false,
                618 % bottomline=false,
                619 % leftline=true,
                620 % rightline=false,
                621 % leftmargin=0,
                622 % innertopmargin=Opt,
                623 % innerbottommargin=Opt,
                624 % skipbelow=\baselineskip,
                625 % linecolor=textColor!20!white,
                626\,\% fontcolor=textColor,
                627 % backgroundcolor=background
                628 %] {foldable}%
                629 %\fi
                631 %% pretty-expandable
                632 %\iftikzexport
                633 %% Overwritten in .4ht, but probably also in accordion!
                634 \ifdefined\xmNotExpandableAsAccordion
                635 \newenvironment{expandable}{}{}
                636 \else
                637 \newenvironment{expandable}[2]{}{}
                638 \fi
```

```
640 %\newmdenv[
             641 % font=\upshape,
             642 % outerlinewidth=3,
             643\,\% topline=false,
             644\% bottomline=false,
             645 % leftline=true,
             646 % rightline=false,
             647 % leftmargin=0,
             648 % innertopmargin=Opt,
             649 % innerbottommargin=Opt,
             650 % skipbelow=\baselineskip,
             651 % linecolor=black,
             652 %] {expandable}%
             653 %\fi
             654
             655 \mbox{ } \mbox{newcommand{\unfoldable} [1]{#1}}
             657 (/classXimera)
            On the web, these foldable elements could be HTML5 details and summary.
             658 (*htXimera)
             659 \renewenvironment{foldable}{\stepcounter{identification}\ifvmode \IgnorePar\fi \EndP\HCode{<
             661 \ifdefined\xmNotExpandableAsAccordion
             662 \renewenvironment{expandable}{\stepcounter{identification}\ifvmode \IgnorePar\fi \EndP\HCode
             665 \renewcommand{\unfoldable}[1]{\HCode{<span class="unfoldable">}#1\HCode{</span>}}
             666 (/htXimera)
            2.4.12 Leashes
leash (env.) Put content inside a scrollable box.
             667 (*classXimera)
             669 \newenvironment{leash}[1]{%
             670 }{%
             671 }
             672
             673
             674 (/classXimera)
```

2.5 Document metadata

2.5.1 Metadata

680 (/classXimera)

675 (*htXimera)

677 (/htXimera)

To encourage authors to include relevant parseable metadata in the preamble, we define some currently ignored commands.

676 \renewenvironment{leash}[1]{\ifvmode \IgnorePar\fi \EndP\HCode{<div style="overflow: auto; here..."

\acknowledgement

In the preamble, use **\acknowledgement** to credit others who contributed to the intellectual content beside the author.

```
681 (*classXimera)
682 \newcommand{\acknowledgement}{\excludecomment}
683 (/classXimera)
In the preamble, a \tag provides a free-form taxonomy.
684 (*classXimera)
```

```
685 \renewcommand{\tag}{\excludecomment}
                                  686 (/classXimera)
                                On the HTML side, we mark the file as the appropriate kind of object—either activity
                                or xourse.
                                  687 (*htXourse)
                                  688 % Mark this as a xourse file
                                   689 \Configure{@HEAD}{\HCode{<meta name="description" content="xourse" />\Hnewline}}
                                  690 (/htXourse)
                                2.5.2 Abstract
abstract (env.) Every activity should include a short abstract.
                                  691 (*classXimera)
                                  692 \let\abstract\relax
                                  693 \let\endabstract\relax
                                  694\ \% Use of environ package, may want to find a better way.
                                  695 % see the messing around with \theabstract in title.dtx ... Is this really needed/wanted?
                                   696 \ensuremath{\verb|NewEnviron{abstract}{\protected@xdef\\theabstract{\BODY}}}
                                  697 (/classXimera)
                                The abstract has been stored in \theabstract and should be emitted as a div. The code
                                below is required for the abstract to show online.
                                  698 (*cfgXimera)
                                  699 \ifvmode\IgnorePar\fi\EndP
                                  700 \ConfigureEnv{abstract}{\ifvmode\IgnorePar\fi\EndP\HCode{\Hnewline<div class="abstract">}\pa:
                                  701 (/cfgXimera)
                                   702 (*htXimera)
                                   703 \RenewEnviron{abstract}{\BODY}
                                   704 (*htXimera)
                                2.5.3
                                                Titles and authors
                                2.5.4
                                               Authors
               \author Activities have authors. Warn the user if no author is provided.
                                  705 (*classXimera)
                                  706 \ \text{let}\ \text{@emptyauthor}\ \text{@author}
                                  707 \def\author#1{\gdef\@author{#1}}
                                  708 \def\@author{\@latex@warning@no@line{No \noexpand\author given}}
                                  709 (/classXimera)
                                Include author name in meta tags
                                  710 (*htXimera)
                                  711 \configure \conf
                                  712 (/htXimera)
                                The \and command would emit tabular environments which really should not appear in
                                a meta tag.
                                  713 (htXimera | classXimera) \def \and{and }
                                2.5.5 Title
                \title Activities have titles.
                                  714 (*classXimera)
                                  715 \let\title\relax
                                  716 \mbox{\ensuremath{\mbox{\command}{\title}[1][]{\protected@xdef\@pretitle{#1}}\protected@xdef\@title}}
                                  717
```

722 %\renewcommand{\thesection}{\arabic{titlenumber}} %% Makes section numbers work

721 \renewcommand{\thetitlenumber}{\arabic{titlenumber}}

 $718 \text{ } \text{title{}}$

720 \newcounter{titlenumber}

723 \setcounter{titlenumber}{0}

719

```
724
                             725 \newpagestyle{main}{
                             726 \sethead[\texts1{\ifnumbers\thetitlenumber\hspace{1em}\fi\@title}][][] % even
                             727 {}{}{\texts1{\ifnumbers\thetitlenumber\hspace{1em}\fi\@title}} % odd
                             728 \setfoot[\thepage][][] % even
                             729 {}{}{\thepage} % odd
                             730 }
                             731 \pagestyle{main}
\maketitle In a ximera document, redefine \maketitle and put them in a table of contents. The
                            \phantomsection is to fix the hrefs.
                             732 \renewcommand\maketitle{%
                             733
                                          \addtocounter{titlenumber}{1}%
                             734
                                          {\flushleft\large\bfseries \@pretitle\par\vspace{-1em}}
                                          {\label{large} $$\{\flushleft\LARGE\bfseries {\label{large} } \else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspace{1em}\else\hspac
                             735
                                          \phantomsection%
                             736
                                          \ifnumbers\addcontentsline{toc}{section}{\thetitlenumber~\@title}\else\addcontentsline{toc}
                             737
                                          \vskip .6em\noindent\textit\theabstract\setcounter{problem}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setcounter{section}{0}\setco
                             738
                             739
                                          %\ifnooutcomes\else\let\thefootnote\relax\footnote{Learning outcomes: \theoutcomes}\fi% De
                             740
                                          \ifnoauthor\else\let\thefootnote\relax\footnote{Author(s): ~\@author}\fi
                             741
                                          \aftergroup\@afterindentfalse
                                          \aftergroup\@afterheading}
                             742
                             743
                             744 \ifnumbers
                             745 \setcounter{secnumdepth}{2}
                             746 \renewcommand{\thesection}{\arabic{titlenumber}.\arabic{section}}
                             747 \renewcommand{\thesubsection}{\arabic{titlenumber}.\arabic{section}.\arabic{subsection}}
                             749 \setcounter{secnumdepth}{-2}
                             750 \fi
                             751
                             752 \def\activitystyle{}
                             753 \newcounter{sectiontitlenumber}
                             754 \setcounter{secnumdepth}{2}
                             755 \setcounter{tocdepth}{2}
                             756 \newcommand\chapterstyle{%
                                          \verb| def | activity style \{activity - chapter\}|
                             757
                                          \def\maketitle{%
                             758
                                                \addtocounter{titlenumber}{1}%
                             759
                                                                                       {\flushleft\small\sffamily\bfseries\@pretitle\par\vspace{-1.5em}}\%
                             760
                             761
                                                                                       {\flushleft\LARGE\sffamily\bfseries\thetitlenumber\hspace{1em}\@title \pa
                                                                                       {\vskip .6em\noindent\textit\theabstract\setcounter{problem}{0}\setcounter
                             762
                             763
                                                                                        \par\vspace{2em}
                                                                                        \phantomsection\addcontentsline{toc}{section}{\textbf{\thetitlenumber\hs}
                             764
                             765 }}
                             766
                             767
                             768 \newcommand\sectionstyle{%
                                          \def\activitystyle{activity-section}
                             769
                                          \def\maketitle{%
                             770
                             771
                                                \addtocounter{section}{1}
                                                \setcounter{sectiontitlenumber}{\value{section}}
                             772
                                               {\flushleft\small\sffamily\bfseries\Qpretitle\par\vspace{-1.5em}}\%
                             773
                                               {\flushleft\Large\sffamily\bfseries\thetitlenumber.\thesectiontitlenumber\hspace{1em}\@t.
                             774
                                                {\vskip .6em\noindent\textit\theabstract\setcounter{subsection}{0}}%
                             775
                             776
                                                \par\vspace{2em}
                                                \phantomsection\addcontentsline\{toc\}\{section\}\{\thetitlenumber.\thesectiontitlenumber\hsp.\columnwidth
                             777
                                        778
                                                                                                                                       {-3.25ex}\ -1ex \@minus -.2ex}%
                             779
                             780
                                                                                                                                      {1.5ex \@plus .2ex}%
                                                                                                                                      {\normalfont\large\bfseries}}
                             781
                             782
                                        783
                             784
                                                                                                                                              {-3.25ex\plane} -1ex \plane -.2ex}%
```

```
{1.5ex \@plus .2ex}%
                                                 {\normalfont\normalsize\bfseries}}
 786
 787
788 }}
789
790
791 \iftikzexport%% allows xake to handle \chapterstyle and \sectionstye
792 \renewcommand\chapterstyle{\def\activitystyle{chapter}}
793 \renewcommand\sectionstyle{\def\activitystyle{section}}
794 \else
 795 \fi
796
797 (/classXimera)
Eliminate some formatting that we'll handle later with CSS
798 (*htXimera)
799 \renewcommand{\maketitle}{}
800 (/htXimera)
```

2.5.6 Only in HTML or PDF

Ximera provides several techniques to display some content only in the PDF, or only online. The prompt environment can be used to hide the data-entry part of a problem from the PDF: it's contents only get displayed online.

The lower level commands \pdfOnly and \htmlOnly also limit the output to either PDF or online, similarly to the environments onlyPdf and onlyHtml.

If \mmPrintHtmlOnlyAlsoInPdf is set, the online/html only things are printed in the PDF anyway (e.g. for review).

Unfortunately it is not possible in LATEX to have a command and an environment with the same name. We opted for the above (confusing...) names.

For backward compatibility, the deprecated environment onlineOnly is identical to onlyHtml.

For more advanced usage also commands \ifonline and ifonlineTF are provided.

The technique used to distinguish between the PDF-version and the online HTML-version is always the existence of the TeX4ht macro \HCode. Older distinctions such as \ifxake, ifhandout or \iftikzexport should no longer be used for this purpose.

```
The prompt part for mathmode
   prompt (env.)
                 801 (*classXimera)
                 802 \ifxake
                            \newenvironment{prompt}{}{}
                 803
                 804 \else
                 805 \setminus ifhandout
                 806 \NewEnviron{prompt}{}
                        % Breaks when put in mathmode ?
                 807
                        808
                 809 \else
                 810 \newenvironment{prompt}{\bgroup\color{gray!50!black}}{\egroup}
                 811 \fi
                 812 \fi
 onlyHtml (env.) Only display online
   onlyPdf (env.) Only display in the PDF
onlineOnly (env.) Only display online (deprecated: use onlyHtml instead)
                 813 \ifdefined\HCode
                     \newenvironment{onlyPdf}{\setbox0\vbox\bgroup}{\egroup}
                 815
                     \newenvironment{onlyHtml}{\bgroup}{\egroup}
                 816 \newenvironment{onlineOnly}{\bgroup}{\egroup}
                 817 \else
                     \newenvironment{onlyPdf}{\bgroup}{\egroup}
                 818
                     \ifdefined\xmPrintHtmlOnlyAlsoInPdf
                 819
                      \newenvironment{onlyHtml}{\bgroup\color{red!50!black}}{\egroup}
                 820
                      \newenvironment{onlineOnly}{\bgroup\color{red!50!black}}{\egroup}
                 821
                 822
                     \else
```

```
\newenvironment{onlyHtml}{\setbox0\vbox\bgroup}{\egroup}
                                                        \newenvironment{onlineOnly}{\setbox0\vbox\bgroup}{\egroup}
                                       825 \fi
                                       826 \fi
                                       827
      \htmlOnly Only display online
         \pdfOnly Only display in the PDF
                                       829 \fidefined\HCode
                                       830 \newcommand{\pdfOnly}[1]{}
                                       831 \newcommand{\htmlOnly}[1]{#1}
                                       832 \else
                                       833 \ifdefined\xmPrintHtmlOnlyAlsoInPdf
                                                       \newcommand{\pdfOnly}[1]{#1}
                                       834
                                                      \newcommand{\htmlOnly}[1]{\bgroup\color{red!50!black}#1\egroup}
                                       835
                                       836 \else
                                       837
                                                       \newcommand{\pdfOnly}[1]{#1}
                                       838
                                                      \newcommand{\htmlOnly}[1]{}
                                       839 \fi
                                       840 \fi
                                       841
      \ifonline Only execute online (ie in HTML version)
\ifonlineTF Different output online vs PDF
                                       842 % An alternatife for \pdfOnly/\pdfOnly:
                                       843 % Usage: Hello \ifonlineTF{online reader}{PDF reader}
                                       844 \providecommand{\ifonlineTF}[2]{\htmlOnly{#1}\pdfOnly{#2}}
                                       845 \newif{\ifonline}
                                       846 \ifdefined\HCode
                                       847 \onlinetrue
                                       848 \else
                                       849 \onlinefalse
                                       850 \fi
                                       851 (/classXimera)
                                     2.5.7 Learning Outcomes
                                       852 (*classXimera)
                                       853 \newcommand{\preOutcomeLine}{\item }
                                       854 \newcommand{\postOutcomeLine}{}
                                       855 \newcommand{\preOutcomeBlock}{After completing this content, students should be able to: \begin{align*} \text{be}_{\text{a}} \text{ able to: } \text{be}_{\text{a}} \text{
                                       856 \newcommand{\postOutcomeBlock}{\end{itemize} So go forth and learn!}
                                       857
                                       858 \newcommand{\outcomeHeader}{Goals for this Section}
                                       859 \htmlOnlv{
                                                        \newcommand{\outcomeBlock}{\ifvmode\IgnorePar\fi\EndP\HCode{<div class="outcomeHead">} \ou
                                       860
                                       861 }
                                       862
                                       863
                                       864 \newwrite\outcomefile
                                       865 \immediate\openout\outcomefile=\jobname.oc
                                       866 \newcommand{\outcome}[1]{%
                                       867
                                                        \immediate\write\outcomefile{\expandafter\unexpanded\expandafter{\preOutcomeLine #1} \expandafter\unexpanded\expandafter{\preOutcomeLine #1} \expandafter\unexpanded\expandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpandafter\unexpan
                                       868 }
                                       869
                                       870 \newcommand{\displayOutcomes}[1][]{%
                                       871
                                                         \immediate\closeout\outcomefile
                                                         \IfFileExists{\currfiledir\currfilebase.oc}{
                                       872
                                                               \htmlOnly{\outcomeBlock}
                                        873
                                                                     \expandafter\preOutcomeBlock
                                        874
                                        875
                                                                     \input{\currfiledir\currfilebase.oc}
                                       876
                                                                     \postOutcomeBlock
                                                                     \htmlOnly{\ifvmode\IgnorePar\fi\EndP\HCode{</div>}}
                                       877
```

```
}
878
879
880
        \IfFileExists{\currfilebase.oc}{
881
          \htmlOnly{\outcomeBlock}
882
            \expandafter\preOutcomeBlock
            \input{\currfilebase.oc}
883
            \postOutcomeBlock
884
            \htmlOnly{\ifvmode\IgnorePar\fi\EndP\HCode{</div>}}
885
886
887
            No outcome file found.
888
889
890
891
     }
892 %
893 (/classXimera)
```

These can appear in either the preamble or in problem environments. with pdflatex, we produce the .oc file which includes ALL the outcomes; in the tex4ht world, we just produce spans for the specific outcomes.

```
894 \*cfgXimera\\
895 \renewcommand{\outcome}[1]{\\
896 \Configure{@HEAD}{\HCode{<meta name="learning-outcome" content="#1"/>\Hnewline}}\\
897 \\
898 % Sometimes there are no outcomes at all\\
899 \IffileExists{\jobname.oc}{\input{\jobname.oc}}{\}
900
901 \renewcommand{\outcome}[1]{%\\
902 \HCode{<span class="learning-outcome">#1</span>}\\
903 \\
904 \/cfgXimera\\
```

2.5.8 Labels and references

\label Labels and refs both generate anchors. A \label can be referenced from any file in the xourse.

\ref A \ref can connect one TFX file to another if they are in the same xourse.

```
909 \langle *htXimera \rangle
910 \ref{1]{\HCode}<a class="reference" href="\##1">#1</a>}}
911 <math>\langle /htXimera \rangle
```

2.6 Images

2.6.1 Images

image (env.) Place images inside an image environment. On paper, this centers the image. On the \mmDefaultGraphicsPath web, this provides additional benefits. Base graphicspath, deafult '/xmPictures'. Can only be changed BEFORE loading ximera.cls!

```
912 (*classXimera)
913 % Provide a default graphicspath
914 % (somewhat tricky: an activity can be included in a xourse in a wildly different path !)
915 % Suggested convention: put all images in i /pictures folder in the root of your project
916 \providecommand{\xmDefaultGraphicsPath}{/xmPictures}
917 \graphicspath{ %% When looking for images,
                   %% look here first,
918 {./}
                                %% then look for a pictures folder,
919 {.\xmDefaultGraphicsPath/}
920 {..\xmDefaultGraphicsPath/}
                                 %% then look for a pictures folder,
921 {../..\xmDefaultGraphicsPath/}
                                   %% then look for a pictures folder,
922 {../../xmDefaultGraphicsPath/}  %% then look for a pictures folder,
923 }
```

```
924 %\newenvironment{image}[1][]{\begin{center}}{\end{center}}
      925 \NewEnviron{image}[1][3in]{%
           \begin{center}\resizebox{#1}{!}{\BODY}\end{center}% resize and center
      927 }
      928 (/classXimera)
\alt Inside an image environment, \alt provides alt-text for assistive technology like screen-
      929 (*classXimera)
      930 \newcommand{\alt}[1]{}
      931 (/classXimera)
     The image environment doesn't actually work in tex4ht as defined with NewEnviron; so
     this renewenvironment is needed. image-environment also gets formatted in a well, and
     when the user clicks on the image, it zooms in.
      932 (*htXimera)
      933 \newcounter{imagealt}
      934 \setcounter{imagealt}{0}
      935 \renewenvironment{image}[1][]{\stepcounter{imagealt}%
           \ifvmode \IgnorePar\fi \EndP%
           \HCode{<div class="image-environment" role="img" aria-labelledby="image-alt-\arabic{imagea.
      938 }{\HCode{</div>}}
      939 \renewcommand{\alt}[1]{\HCode{<div style="display: none;" id="image-alt-\arabic{imagealt}">}:
      940 (/htXimera)
      941 (*cfgXimera)
      942 %% Although we accept many formats, SVG is preferred on the web.
      943\ \mbox{\%}\ \mbox{Since we have a different mechanism for producing |alt| text, we}
      944\ \mbox{\%\%} want to ignore tex4ht's own method fo producing alt text.
      945~\mbox{\%\%} 2024: is now in TeX4ht ...
      946 % \DeclareGraphicsExtensions{.jpg,.png,.gif,.svg}
      947 % \Configure{graphics*}
      948 % {svg}{
             {\Configure{Needs}{File: \Gin@base.svg}\Needs{}}
      949 %
             \Picture[]{\csname Gin@base\endcsname.svg \csname a:Gin-dim\endcsname}%
      951 % }
      952 (/cfgXimera)
     This is a hack to kill includegraphics commands in \documentclass{standalone}
      953 (*cfgXimera)
      954 \ifcsname ifstandalone\endcsname
          \ifstandalone
             \renewcommand\includegraphics[2][]{}
      956
      957
      958 (/cfgXimera)
     PGF sometimes causes trouble, but we simply don't care in tex4ht mode.
      959 (*htXimera)
      960 \providecommand{\pgfsyspdfmark}[3]{}
      961 (/htXimera)
```

2.6.2 TikZ export

2024: We DON NOT ANYMORE generate SVGs and PNGs for any TikZ images, via the "externalize" feature of TikZ.

Previously TikZ didn't compile natively into the website because of how the xake bake compilation works. In order to make Tikz work, you need to get the tool mutool on the machine that is performing xake bake.

```
962\ \ensuremath{\langle*classXimera\rangle} 963\ \ensuremath{\%} everything skipped, assumle TeX4ht does the jjb now 964\ \ensuremath{\rangle} ifdefined\reallyneverever 965 \ensuremath{\rangle} \titlefined\reallyneverever \ensuremath{\rangle} \titlefined\reallyneverever \ensuremath{\rangle} \titlefined\reallyneverever \ensuremath{\rangle}
```

```
968 \fi
969
970 \iftikzexport
971
     \usetikzlibrary{external}
972
     \ifdefined\HCode
973
       % in htlatex, just include the svg files
974
       \def\pgfsys@imagesuffixlist{.svg}
975
976
       \tikzexternalize[prefix=./,mode=graphics if exists]
977
978
     \else
979
       % in pdflatex, actually generate the svg files
980
       \tikzset{
981
         /tikz/external/system call={
           pdflatex \tikzexternalcheckshellescape
982
            -halt-on-error -interaction=batchmode
983
            -jobname "\image" "\\PassOptionsToClass{tikzexport}{ximera}\texsource";
984
           mutool draw -F svg \image.pdf > \image.svg ;
                                                               % mutool adds "1" to filename ?????
985
           mutool draw -o \image.svg \image.pdf ;
986
           mutool draw -r 150 -c rgbalpha -o \image.png \image.pdf ;
987
988
            ebb -x \image.png
989
990
       \tikzexternalize[optimize=false,prefix=./]
991
992
993
     \fi
994
995 \fi
996 (/classXimera)
```

2.6.3 XKCD

\xkcd Reference an XKCD cartoon.

```
997 (*classXimera)
998 \newcommand{\xkcd}[1]{\#1}
999 (/classXimera)
```

On the web, this should be an image linked to the actual XKCD website.

```
1002 (/htXimera)
```

2.7 Links

We put hyperref after all other packages because that is better.

```
1003 (*classXimera)
1004 % Don't use hyperref when using Tex4ht
1005 \setminus ifdefined \setminus HCode
1006 \RequirePackage{hyperref}
1008 \ \texttt{RequirePackage[pdfpagelabels,colorlinks=true,allcolors=blue!30!black]\{hyperref\}} \\
1009 \pdfstringdefDisableCommands{\def\hskip{}}\% quiets warning
1010 \fi
1011 (/classXimera)
```

Interactives 2.8

2.8.1 Including widgets

\includeinteractive Cognate to includegraphics but instead of a graphics file, accepts a .js file which will be loaded as an interactive widget.

```
1012 (*classXimera)
1013 \ \ define@key\{interactive\}\{id\}\{\ \ interactive@id\{\#1\}\}\}
```

```
1014 \setkeys{interactive}{id=}
           1015 \newcommand{\includeinteractive}[2][]{
           1016 \setkeys*{interactive}{#1}%
           1018 Interactive
           1019 }
           1020 (/classXimera)
           1021 (*htXimera)
           1022 \renewcommand{\includeinteractive}[2][]{\stepcounter{identification}\ifvmode \IgnorePar\fi \A
           1023 (/htXimera)
           2.8.2 Google Sheet
\googleSheet googleSheet command. Requires id, width, and height as arguments. optional arguments
           are gid for sheet ID and range for cell range. command definition
           1024 (*classXimera)
           1025 % Google Spreadsheet link (read only)
           1026 \newcommand{\googleSheet}[5]{%
                Google Spreadsheet link: \url{https://docs.google.com/spreadsheets/d/#1}%
           1028 }
           1029 (/classXimera)
           1030 (*htXimera)
           1031 \renewcommand{\googleSheet}[5]{%
                 \ifthenelse{\equal{#4}{}}%
           1032
           1033
                   {\HCode{<iframe width="#2px" height="#3px" src="https://docs.google.com/spreadsheets/d/#
           1034
                   {\left(\frac{\#5}{}\right)}%
                     {\HCode{<iframe width="#2px" height="#3px" src="https://docs.google.com/spreadsheets/
           1035
                     1036
           1037
                  7%
                 }%
           1038
           1039 (/htXimera)
           2.8.3 Geogebra
  \geogebra Geogebra command. Requires id, width, and height as arguments.
           1040 (*classXimera)
           1041 %Geogebra link
           1042 \newcommand{\geogebra}[3]{GeoGebra link: \url{https://www.geogebra.org/m/#1}}
           1043 (/classXimera)
           Define keys for answer geogebra key=value pairs.
           1044 (*htXimera)
           1046 \ \ define@key{geogebra}{sdz}[true]{\ \ \ \ }
```

1047 \define@key{geogebra}{smb}[true]{\def\geo@smb{#1}}

 $1048 \ensuremath{\mbox{\mbox{1}}} true] {\ensuremath{\mbox{\mbox{4}}}} 1049 \ensuremath{\mbox{4}} firue] {\ensuremath{\mbox{4}}} true] {\ensuremath{\mbox{4}}} firue] {\ensuremath{\mbox{$$

1050 \define@key{geogebra}{ld}[true]{\def\geo@ld{#1}}

1052 %set default key values 1053 \star default key values 1053 \star default key values 1c53 \star false, stb=false, stb=false, stbh=false, ld=false, sri=false}

1054 %command definition 1055 \renewcommand{\geogebra}[4][]{%

1056 \setkeys{geogebra}{#1}% Set new keys

1057 \HCode{<iframe scrolling="no" src="https://www.geogebra.org/material/iframe/id/#2/width/#3, 1058 \langle htXimera \rangle

2.8.4 **Desmos**

\desmos Desmos command. Requires id, width, and height as arguments.

```
1059 \enskip \color= 1060 \e
```

```
1062 (/classXimera)
                                                                        1063 (*htXimera)
                                                                        1064 \catcode '\%=11
                                                                        1065 \renewcommand{\desmos}[3]{\HCode{<iframe src="https://www.desmos.com/calculator/#1" width="10" vidth="10" vidth="10"
                                                                        1066 \catcode '\%=14
                                                                        1067 \renewcommand{\desmosThreeD}[3]{\HCode{<iframe src="https://www.desmos.com/3d/#1" width="#2p.
                                                                        1068 (/htXimera)
                                                                        2.8.5 Graphs
                                          \graph An embedded graph (in math mode).
                                                                         1069 (*classXimera)
                                                                        1070 \newcommand{\graph}[2][]{\text{Graph of $#2$}}
                                                                        1071 (/classXimera)
                                                                        1072 (*htXimera)
                                                                        1073 \renewcommand{\graph}[2][]{\HCode{<div class="graph" data-options="#1">}#2\HCode{</div>}}
                                                                        1074 (/htXimera)
                                                                        2.8.6 Video
                                 \youtube Youtube command. Requires id.
                                                                        1075 (*classXimera)
                                                                        1076 \newcommand{\youtube}[1]{YouTube link: \url{https://www.youtube.com/watch?v=#1}}
                                                                        1077 (/classXimera)
                                                                        1078 (*htXimera)
                                                                        1079 %% \renewcommand{\youtube}[1]{\ifvmode \IgnorePar\fi \EndP\\HCode{<div class="video youtube-p.
                                                                        1080 % Fixes no-youtube-when-no-cookies-accepted. Class xmyoutube allows for css customization.
                                                                        1081 \renewcommand{\youtube}[1]{\ifvmode \IgnorePar\fi \EndP\HCode{<iframe class="xmyoutube" src=
                                                                        1083 (/htXimera)
                                                                        Video commands are also emitted, slightly differently, when placed at top-level in a
                                                                        xourse file.
                                                                        1084 (*htXourse)
                                                                        1085 \renewcommand\youtube[1]{%
                                                                        1086 \ifvmode \IgnorePar\fi \EndP\HCode{<a class="youtube" href="https://www.youtube.com/watch?v=
                                                                        1088 (/htXourse)
                                                                        2.8.7 JavaScript
javascript (env.) Code inside a javascript environment is printed on paper, but executed on the web.
                                                                        1089 (*classXimera)
                                                                        1090 \DefineVerbatimEnvironment{javascript}{Verbatim}{numbers=left,frame=lines,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaScript,label=JavaSc
                                                                        1091 (/classXimera)
                                                                        1092 (*htXimera)
                                                                        1093 % for programming javascript
                                                                        1094 \ \texttt{\label{loss}} \\ \texttt{\
                                                                        1095 \ScriptEnv{javascript}{\stepcounter{identification}\ifvmode \IgnorePar\fi \EndP\HCode{<div c.
                                                                        1096 (/htXimera)
                                                       \js
                                                                                      Code inside a \js macro is evaluated and replaced with its value.
                                                                        1097 (*classXimera)
                                                                        1098 \def\js#1{\mbox{\texttt{\detokenize{#1}}}}
                                                                        1099 (/classXimera)
                                                                        1100 (*htXimera)
                                                                        1101 \def\js#1{\stepcounter{identification}\HCode{<span class="inline-javascript" id="javascript\"
                                                                        1102 (/htXimera)
```

1061 \newcommand{\desmosThreeD}[3]{Desmos3D link: \url{https://www.desmos.com/3d/#1}}

```
2.9
                                                       SageMath support
                                       Load SageTEX if it exists.
                                       1103 (*classXimera)
                                       1104 \IfFileExists{sagetex.sty}{\RequirePackage{sagetex}}{}
                                       1105 (/classXimera)
    sageCell (env.)
                                               Create an interactive SageMath widget.
                                       1106 (*classXimera)
                                       1107 \DefineVerbatimEnvironment{sageCell}{Verbatim}{numbers=left,frame=lines,label=SAGE,labelposi
                                       1108 (/classXimera)
                                       1109 (*htXimera)
                                       1110 \renewenvironment{sageCell}{\NoFonts}{\EndNoFonts}
                                       1111 \ScriptEnv{sageCell}{\ifvmode \IgnorePar\fi \EndP\\HCode{<div class="sage"><script type="text,
                                       1112 (/htXimera)
sageOutput (env.)
                                               Execute SageMath code and output the result.
                                       1113 (*classXimera)
                                       1114 \DefineVerbatimEnvironment{sageOutput}{Verbatim}{numbers=left,frame=lines,label=SAGE-Output,.
                                       1115 (/classXimera)
                                       1116 (*htXimera)
                                       1117 \renewenvironment{sageOutput}{\NoFonts}{\EndNoFonts}
                                       1118 \ScriptEnv{sageOutput}{\ifvmode \IgnorePar\fi \EndP\HCode{<div class="sageOutput"><script ty
                                       1119 (/htXimera)
                                               Execute SageMath code without outputting the result.
sageSilent (env.)
                                       1120 (*htXimera)
                                       1122 \ifdefined\sagesilent
                                                    \renewenvironment{sagesilent}{\NoFonts}{\EndNoFonts}
                                       1124 \fi
                                       1125 \ScriptEnv{sagesilent}{\ifvmode \IgnorePar\fi \EndP\HCode{<script type="text/sagemath">}\Htm.
                                       1126 (/htXimera)
                                       2.10
                                                          Answerables
                                       2.10.1
                                                           Answers
                    \answer A math answer
                                       1127 (*classXimera)
                                       1128
                                       1129 \footnote{\colored} \Algorithm{1}{\colored} \Algorithm{\colored} 
                                       1130 \newcommand{\recordvariable}[1]{}
                                       1131 \else
                                       1132 \newwrite\idfile
                                       1133 \immediate\openout\idfile=\jobname.ids
                                       \label{limited} 1134 \endown and {\tt record variable} [1] {\tt lifthenelse {\tt vequal {\#1}{}}} {\tt limmediate {\tt write {\tt idfile {\tt var }\#1; }}. } $$
```

Determines if answer is shown in handout mode. when given=true, show answer in

Determines if answer is shown in handout mode. when given=true, show answer in handout mode, show answer in "given box" outside handout mode. When given=false, do not show answer in handout mode, show answer outside handout mode

 $1136 \end{define@key{answer}} \{given\} [true] \{\end{def} \end{def} \{1\}\} \}$

Used for setting numeric answer tolerance for online student input.

1137 \define@key{answer}{tolerance}{\def\ans@tol{#1}}

Used to run dynamic js code on student provided answers. Note: currently pdf outputs the validator code itself.

Used for assigning a js ID to answer for dynamic code (eg validators).

1139 $\define@key{answer}{id}{\def\ans@id{#1}}$

Used to set anticipated input format; eg "string".

1140 \define@key{answer}{format}{}

```
1141 \define@key{answer}{onlinenoinput}[false]{}
Used to add a 'show answer' button to the answer blank.
1142 \define@key{answer}{onlineshowanswerbutton}[false]{}
Set default values for \answer command key=value pairs. Default values are given = false.
1143 \ \texttt{\ } \{answer\} \{id=, given=false, online no input=false, online show answer but ton=false\} \}
Basic code for \answer.
1145 % Options for handout
1146 \newcommand{\answerFormatLength}{2cm}
1147
1148 \newcommand{\answerFormatDots}[1]{\ldots\ldots}
1149 \newcommand{\answerFormatLine}[1]{\protect\rule{\answerFormatLength}{0.4pt}}
\label{limited} $$1150 \newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newcommand{\newc
1153 % options for default (i.e with answers filled in)
1154 \newcommand{\answerFormatPlain}[1]{\ensuremath{#1}}
1155 \mbox{\newcommand{\answerFormatBlue}[1]{\color{blue}\ensuremath{\#1}}}
1156 \ensuremath{\{\answerFormatBoxed\}[1]{\fbox{\ensuremath}\{\#1\}}\}
1157 \ \texttt{\new} command \ \texttt{\new} for mat Boxed Given \ \texttt{\new} for mathrm \texttt{\new} for m
1158
1159 % defaults for handout and default mode, and for \arrowvert [given]
1160 \let\handoutAnswerFormat\answerFormatDots
1161 \let\defaultAnswerFormat\answerFormatBlue
1162 \let\givenAnswerFormat\answerFormatBoxedGiven
1163
1164 \newcommand{\answer}[2][]{%
1165 \ifmmode%
1166
                \setkeys{answer}{#1}%
1167
                 \recordvariable{\ans@id}
                \ifthenelse{\boolean{\ans@given}}
1168
                    {% Start then statement
1169
                    \ifhandout
1170
1171
                      #2
1172
                    \else
                      \givenAnswerFormat{#2} %% in case the argument helps formatting
1173
1174
                   }% End then statement
1175
1176
                    {% Start else statement
1177
                    \ifhandout
                      \handoutAnswerFormat{#2} %% in case the argument helps formatting
1178
                    \else% show answer in box outside handout mode
1179
                      \defaultAnswerFormat\{\#2\}\ \%\% in case the argument helps formatting
1180
                    \fi
1181
1182
                   }% End else statement
1183 \else%
                 \GenericError{\space\space\space\% Throw an error based on... something? -- Jason
1184
                 {Attempt to use \@backslashchar answer outside of math mode}
                 {See https://github.com/ximeraProject/ximeraLatex for explanation.}
1186
1187
                {Need to use either inline or display math.}%
1188 \fi
1189 }
1190 (/classXimera)
On the HTML side, \answer emits spans—but it is usually just handled directly by
MathJax.
1191 (*htXimera)
1192 \renewcommand{\answer}[2][false]{\HCode{<span class="answer respondable">}#2\HCode{</span>}}
1193
1194 \def\validator[#1] {\stepcounter{identification}\HCode{<div class="validator" id="validator\a."
```

Used to hide the answer input box on the web.

1195 \def\endvalidator{\HCode{</div>}}

```
1197 (/htXimera)
```

2.10.2 Multiple choice and the like

```
multipleChoice (env.) Multiple choice
                                                                                                     1198 (*classXimera)
                                                                                                     1199 % Jim: Originally this was \renewcommand{\theenumi}{$(\mathrm{\alph{enumi}})$}
                                                                                                     1200 % but that breaks tex4ht because mathmode can only be processed by mathjax.
                                                                                                     1201 % so now I made this just italicized.
                                                                                                     2.10.3 Options
                                                                                                     1202 \define@key{choice}{value}[]{\def\choice@value{#1}}
                                                                                                     This flags the answer as the correct answer
                                                                                                     1203 \define@boolkey{choice}{correct}[true]{\def\choice@correct{#1}}
                                                                                                     Use an ID to refer to the choice.
                                                                                                     1204 \ensuremath{\mbox{\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{}\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox{$\mbox
```

\otherchoice outputs the item if correct and nothing if incorrect.

1206 \define@boolkey{otherchoice}{correct}[true]{\def\otherchoice@correct{#1}}

Default key choices for multiple choice options. Default for choice pairs. Default: answers without the option "correct=true" is "incorrect".

1207 \setkeys{choice}{correct=false,value=}

Defaults for multipleChoice pairs. Default to no id? – Jason

1208 \setkeys{multipleChoice}{id=}

Defaults for otherchoice pairs. Default "otherchoice" to behave like "choice" for error checking.

1209 \setkeys{otherchoice}{correct=false, value=} 1210 (/classXimera)

2.10.4 Choices

1235

1236 1237 }% End then result

{}% Begin/End else result.

\choice Like \item but for choice environments. choice command denotes a possible answer choice for the multiple choice question.

```
1211 (*classXimera)
1212 \newcommand{\choice}[2][]{%
1213 \setkeys{choice}{#1}%
1214 \item{#2}
1215 \ifthenelse{\boolean{\choice@correct}}
1216
        {% Begin then result
        \ifhandout% if it's a handout do nothing.
1217
        \else% otherwise place a checkmark when you select the "correct choice"... maybe? -- Jase
1218
            \,\checkmark\,\setkeys{choice}{correct=false}
1219
1220
        \fi
        }% End then result
1221
1222
        {}% Begin/End else result.
1223 }
1224
1225 %Define an expandable version of choice Not really meant to be used outside this package (use
1226 % Is there a reason we can't just always use this as default? -- Jason
1227 \newcommand{\choiceEXP}[2][]{%
1228 \expandafter\setkeys\expandafter{choice}{#1}%
1229 \item{#2}
1230 \ifthenelse{\boolean{\choice@correct}}
      {% Begin then result
1231
      \ifhandout
1232
1233
      \else
       \,\checkmark\,\setkeys{choice}{correct=false}
1234
```

```
1240~\% \otherchoice is the \choice used in wordChoice command.
                     1241 \newcommand{\otherchoice}[2][]{%
                     1242 \ignorespaces%
                     1243 \setkeys{otherchoice}{#1}%
                     1244\ \texttt{\foolean} \ \texttt{\correct}\}\%
                     1245 {% Start then result
                     1246 #2\ignorespaces\setkeys{otherchoice}{correct=false}\ignorespaces%
                     1247 }% End then result
                     1248 {}% Start/End else result
                     1249 \ignorespaces%
                     1250 }%
                     1251 \newcommand{\inlinechoice}[2][]{%
                     1252 \setkeys{choice}{#1}%
                     1253 \iffirstinlinechoice
                     1254 (\hspace{-.25em}
                     1255 \setminus firstinline choice false
                     1256 \else
                     1257 /
                     1258 \fi
                     1259 #2
                     1260 \ifthenelse{\boolean{\choice@correct}}%
                     1261 {% Start then result
                     1262 \ifhandout\else\checkmark\ignorespaces\setkeys{choice}{correct=false}\ignorespaces\fi%
                     1263 }% End then result
                     1264 {}% Start/End else result
                     1265 \hspace{-.25em}\ignorespaces%
                     1266 }
                     1267
                     1268 (/classXimera)
                     On the HTML side, \choice emits <span>s.
                     1269 (*htXimera)
                     1270 \newcounter{choiceId}
                     1271 \renewcommand{\choice}[2][]{%
                     1272 \setkeys{choice}{correct=false}%
                     1273 \setkeys{choice}{#1}%
                     1274 \stepcounter{choiceId}\IgnorePar%
                     1275 \HCode{<span class="choice }%
                     1276 \ \texttt{\foice@correct}\} \{ \texttt{\foolean} \{ \texttt{\choice@correct} \} \{ \texttt{\foolean} \{ \texttt{\choice@correct} \} \} \} \}
                     1277 \HCode{" }
                     1279 \HCode{id="choice\arabic{choiceId}">}%
                     1280 #2\HCode{</span>}}
                     1281 \let\inlinechoice\choice
                     1282 (/htXimera)
                     2.10.5 Environment(s)
multipleChoice (env.) The environment multipleChoice@ is for internal use only. Wrap \choices in a
                     multipleChoice environment to make a multiple choice question.
                     1283 (*classXimera)
                     1284 \newenvironment{multipleChoice}[1][]
                     1285 {% Environment Start Code
                     1286 \setkeys{multipleChoice}{#1}%
                     1287 \recordvariable{\mc@id}%
                     1288 \begin{trivlist}
                           \item[\hskip \labelsep\small\bfseries \GetTranslation{Multiple Choice}:]\hfil
                     1289
                     1290
                           \begin{enumerate}
                     1291 }% Note this means that \item has to be the first line after \begin{multipleChoice}.
                     1292 {% Environment End Code
                           \end{enumerate}
                     1293
                     1294 \end{trivlist}
```

1238 } %% note all the {} are needed in case the choice has [] in it.

```
1295 }
1297 %multipleChoice@ is for internal use only! (used in wordChoice)
1298 %this is simply a wrapper for the sole showing (other)choice.
1299 \newenvironment{multipleChoice@}[1][]{}{)}
1300 (/classXimera)
          On the web, you might also expect these to be "problem environments" but they
aren't - they're respondables. You might expect a \setcounter{choiceId}{0} here —
that would be wrong, because then the generated IDs would no longer be unique.
1301 (*htXimera)
1302 \renewenvironment{multipleChoice}[1][]
1303 {\setkeys{multipleChoice}{#1}%
1304 \end{time} \label{linear_linear} $$1304 \end{time} \end{time} \end{time} $$1304 \end{time} $$13
1305 \ifthenelse{\equal{\mc@id}{}}{}\HCode{data-id="\mc@id" }}%
1307 {\MCode{</div>}}\IgnoreIndent}
1308 \ConfigureEnv{multipleChoice}{}{}{}{}
1309 (/htXimera)
```

2.11 Word choice

\wordChoice An in-line version of multipleChoice: uses enumitem package note, it is coded as a single line to avoid unwanted spaces in "given" mode.

```
1310 (*classXimera)
1311 \newcommand{\wordChoice}[1]{%
1312 \ \text{let}\ \text{choicetemp}\ \text{choice}\ \text{Assign a "choicetemp" command to duplicate choice.}
1313 \ifwordchoicegiven% If wordchoice option is on, we need to juggle around some definitions.
1314 \let\choice\otherchoice%
1315 %\begin{multipleChoice@}% -unnecessary (REMOVE THIS LINE IF THE YEAR IS 2019 or Beyond)
1316 #1
1317 %\end{multipleChoice@}% -unnecessary (REMOVE THIS LINE IF THE YEAR IS 2019 or Beyond)
1318 \else% If it isn't the regular "choice" command should work.
1319 \let\choice\inlinechoice%
1320 \begin{multipleChoice@}%
1321 #1%
1322 \end{multipleChoice@}%
1323 \fi%
1324 \let\choice\choicetmp% Now that choicetmp has been manipulated to what we want, replace cho.
1325 }%
1326
1327
1328 (/classXimera)
This is actually just word choice
1329 (*htXimera)
```

1331 \ConfigureEnv{multipleChoice@}{\stepcounter{identification}\IgnorePar\HCode{<span class="work and configure continuous configure continuous configure continuous configure continuous configure continuous configure configure continuous configure continuous configure continuous configure continuous configure continuous continuous configure continuous configure continuous continuou

2.12 Select all

1332 (/htXimera)

1330 \renewenvironment{multipleChoice@}{\refstepcounter{problem}}{}%

In the future we need this to (optionally) be displayed in the problem, while the actual code lives in the solution. Here is how this could be implemented: Like the title/maketitle commands, the multiple-choice could be stored in \themultiplechoice, flip a boolean, and execute \makemultiplechoice at the \end of the problem. We should also make a command called \showchoices that will show choices in the handout.

On the web, selectAll is handled just like multipleChoice.

2.12.1 Free response

1394 (/htXimera)

```
freeResponse (env.) A freeform input box.
                                          1342 (*classXimera)
                                          1343 \newboolean{given} %% required for freeResponse
                                          1344 \setboolean{given}{true} %% could be replaced by a key=value pair later if needed
                                          1346 \ifhandout
                                          1347 \newenvironment{freeResponse}[1][false]%
                                          1348
                                          1349
                                                       \def\givenatend{\boolean{#1}}
                                                      \ifthenelse{\boolean{#1}}
                                          1350
                                                          {\%} Begin then result
                                          1351
                                          1352
                                                          \begin{trivlist}
                                                           \item
                                          1353
                                          1354
                                                          }% End then result
                                          1355
                                                          {% Begin else result
                                          1356
                                                          \setbox0\vbox\bgroup
                                          1357
                                                          }% End else result
                                          1358 % {}% Don't think this is doing anything? -- Jason
                                                      }
                                          1359
                                                       {%
                                          1360
                                                        \ifthenelse{\givenatend}
                                          1361
                                                          {% Begin then result
                                          1362
                                                          \end{trivlist}
                                          1363
                                                         }% End then result
                                          1364
                                          1365
                                                          {% Begin else result
                                          1366
                                                          \egroup
                                                          }% End else result
                                          1367
                                          1368 %
                                                            {}% Don't think this is doing anything? -- Jason
                                          1369
                                                     }
                                          1370 \else
                                          1371 \newenvironment{freeResponse}[1][false]%
                                          1372
                                                       {% Environment Beginning Code
                                                            \ifthenelse{\boolean{#1}}}% Could probably change this with just putting the (given) in
                                          1373
                                                               {% Begin then result
                                          1374
                                                               \begin{trivlist}
                                          1375
                                                                1376
                                                              }% End then result
                                          1377
                                                          {% Begin else result
                                          1378
                                          1379
                                                          \begin{trivlist}
                                                            \item[\hskip \labelsep\bfseries \GetTranslation{Free Response}:\hspace{2ex}]
                                          1380
                                          1381
                                                         }% End else result
                                          1382
                                                       {% Environment Ending Code
                                          1383
                                          1384
                                                          \end{trivlist}
                                          1385
                                          1386 \fi
                                          1387
                                          1388 (/classXimera)
                                          1389 (*htXimera)
                                          1391 \ \texttt{\ensuremath{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox{\parbox
                                          1393
```

2.12.2 Feedback

feedback (env.) An initially hidden environment that uncovers itself at an appropriate time. New Validator rewrite code added by Jason Nowell. Original code orovided by Jim Fowler Validator is an environment designed to run a custom check on answers (usually) using javascript code.

Define a placeholder command for validator and feedback.

```
1395 (*classXimera)
1396 \newcommand{\PH@Command}{}
```

Validator should take an argument and detokenize it and display it at the start of the environment. The original Validator environment had everything framed in an mbox; presumably to make the text look a bit nicer, although this seems redundant with texttt. It shouldn't cause any harm so I have left it in for now.

```
1397 \newenvironment{validator}[1][]{
1398 \def\PH@Command{#1}% Use PH@Command to hold the content and be a target for "\expandafter" 1399 \mbox{\texttt{\detokenize\expandafter{\PH@Command}}}% Now expand PH@Command once and then do
```

1400 }{}

1433 (/htXimera)

First, if it's a handout, we want feedback to eat everything and then disappear entirely. So we do this:

If this isn't a handout, then we want to display the Feedback by using a label, positioned and formated as a \item in a trivlist. It is important that we also detokenize the content of the optional argument, as it is likely to contain javascript or other code that latex won't be able to make sense of.

```
1409 \else
1410 \newenvironment{feedback}[1][attempt]{
1412 \edef\PH@Command{\GetTranslation{#1}}% Use PH@Command to hold the content and be a target for
1413
1414 \begin{trivlist}% Begin the trivlist to use formating of the "Feedback" label.
1415 \item[\hskip \labelsep\small\slshape\bfseries \GetTranslation{Feedback}% Format the "Feedback
1416 (\texttt{\expandafter\detokenize\expandafter{\PH@Command}}):% Format (and detokenize) the control of the c
1417 \hspace{2ex}]\small\slshape% Insert some space before the actual feedback given.
1418 }{
1419 \end{trivlist}
1420 }
1421
1422 \fi
1423 (/classXimera)
Feedback environments take an optional parameter (which describes when the feedback
is to be provided)
1424 (*htXimera)
1426 \def\@feedbackattempt{\@feedbackcode[attempt]}
1428 \ifvmode \IgnorePar\fi \EndP%
1429 \ \texttt{`ifthenelse{`equal{#1}{attempt}}{\ \texttt{`div class="feedback" data-feedback="attempt" id="feedback" data-feedback="attempt" id="feedback="attempt" id="f
1430 \ (if the nelse \ (equal \#1) \ (correct) \ (hCode \ (class="feedback" data-feedback="correct" id="feedback" data-feedback="correct" id="feedback" data-feedback="correct" id="feedback" data-feedback="correct" id="feedback="correct" id="feedback="
1431 {\HCode{<div class="feedback" data-feedback="script" id="feedback\arabic{identification}" ti
1432 \end{eedback} \hline {$\langle div \rangle \} \line {IgnoreIndent}$}
```

2.12.3 Ungraded activities

ungraded (env.) The ungraded environment is used to record that certain parts of activities should not be worth points. For example, if you want to use a multipleChoice as a survey question, you can place it inside an ungraded environment. On the LATEX side, the ungraded environment does nothing.

```
1435 \newenvironment{ungraded}{}{}
1435 \newenvironment{ungraded}{}{}
1436 \langle /classXimera \rangle
But on the html side, ungraded wraps the activities in a div in order to assign some weight to them for grading.

1437 \langle *htXimera \rangle
1438 \renewenvironment{ungraded}{%}
1439 \ifvmode \langle IgnorePar\fi \EndP\HCode{\div}\div}\langle IgnoreIndent%
1440 \rangle {
1441 \ifvmode \IgnorePar\fi \EndP\HCode{\div}\div}\langle IgnoreIndent%
1442 \rangle
1443 \langle /htXimera \rangle
```

2.13 Support for the web

2.13.1 MathJax support

When using mathjax, dump all the \newcommands to a .jax file.

```
First, create the .jax file. Redefine newcommand appropriately.

1444 (*classXimera)
```

```
1445 %% Pre-202412: .jax file written in non-\HCode, and in a next run inserted by ximera.cfg in
1446 %% Post-202501: .mjax file written only in \HCode, and in luaxake post-processing inserted in
                             ( used luaxake rather than sed ...)
1448 \newwrite\mbox{\sc myfile}
1449 \ifdefined\HCode
1450 \immediate\openout\myfile=\jobname.xmjax
1452\ \mbox{\em {\it K}}\mbox{\em {\it K}}\mbox{\em {\it From |nnly.dtx|}}\mbox{\em {\it must also create |prompt|}}\mbox{\em on the MathJax side.}
1454
1455~\% Write all newcommands to .xmjax file, that will be included in the .html via luaxake
1456 \let\@oldargdef\@argdef
1457 \long\def\@argdef#1[#2]#3{%
1459 \@oldargdef#1[#2]{#3}%
1460 }
1461
1462 %% Same for \DeclareMathOperator
1463 \let\@OldDeclareMathOperator\DeclareMathOperator
1464 \ \texttt{\NeclareMathOperator} \ \texttt{\sc{2}} \ \texttt{\sc{2
1465
1466 \fi
1467
1469 (/classXimera)
Include the jax'ed newcommands (pre-202412 versions ....)
1470 (*cfgXimera)
1471
1472 % 202501: removed sed-manipulation of .jax file; see luaxake now
1474 \Configure{BVerbatimInput}{}{}{}{}
1475
1476 \Configure{verbatiminput}{}{}{}{}
```

1478 % Instead of a nonbreaking space, use a standard space

1479 \makeatletter

```
1480 \def\FV@Space{\space}
1481 \makeatother
1482
1483 % Include the (problem-?) .ids in a text/javascript script right at the beginning of the bod
1484 \Configure{BODY}{%
1485 \HCode{<body>\Hnewline}%
1486 \Tg<div class="preamble">%
1487 %% 202501: removed .jax inclusion (see luaxake)
1488
1489 %% Include the .ids file
1490 \IfFileExists{\jobname.ids}{\HCode{<script type="text/javascript">\Hnewline}%
1491 \BVerbatimInput{\jobname.ids}%
1492 \HCode{</script>\Hnewline}%
1493 }{}
1494 \Tg</div>%
1495 }{%
1496 \ \texttt{IgnorePar} \ \texttt{EndP} \ \texttt{HCode} \ \texttt{C/body} \ \texttt{Hnewline} \ \texttt{Mody} \ \texttt{Mod
1497 }
1498
1499 % 202501: removed 'prevent spaces as in "\begin {align}": this is done in luaxake now
1501 % This is a fix for the LAODE book, which uses matlab Equation as if it were an equation
1502 \ScriptEnv{matlabEquation}{\ifvmode \IgnorePar\fi \EndP\HCode{<script type="math/tex; mode=d.
1503
1504 (/cfgXimera)
2.13.2 Semantic HTML
1505 (*cfgXimera)
\label{local-configure} $$1506 \configure{textbf}{\ifvmode\ShowPar\fi\HCode{<strong>}}{\hdfi} \configure{textbf}{\configure{textbf}} $$
1507 (/cfgXimera)
```

2.14 Tools

2.14.1 Suppress

suppress (env.) The suppress environment is a good way to suppress output without commenting it. This way we can avoid many of the places we use environ package and this should also avoid most of the verbatim conflicts. This is code adapted from syntonly.sty.

```
1515 (*classXimera)
1516 \font\dummyft@=dummy \relax
1517 \def\suppress{%
1518
      \begingroup\par
1519
      \parskip\z@
      \offinterlineskip
1520
      \baselineskip=\z@skip
1521
      \lineskip=\z@skip
1522
      \lineskiplimit=\maxdimen
1523
      \dummyft@
1524
1525
      \count@\sixt@@n
1526
      \lceil \log \rceil \leq 1000 
        \advance\count@\m@ne
1527
```

```
\textfont\count@\dummyft@
1528
1529
        \scriptfont\count@\dummyft@
1530
        \scriptscriptfont\count@\dummyft@
1531
      \repeat
      \let\selectfont\relax
1532
      \let\mathversion\@gobble
1533
      \let\getanddefine@fonts\@gobbletwo
1534
      \tracinglostchars\z@
1535
      \frenchspacing
1536
      \hbadness\@M}
1537
1538 \def\endsuppress{\par\endgroup}
1539 (/classXimera)
```

2.14.2 The End

It seems that some of the files need to conclude with something or another.

```
1540 (*htXimera)
1541 \Hinput{ximera}
1542 \/htXimera\)
1543 (*htXourse)
1544 \Hinput{xourse}
1545 \/htXourse\)
1546 (*cfgXimera)
1547 \begin{document}
1548 \EndPreamble
1549 \/cfgXimera\)
```

3 xourse.cls

```
1550 (*classXourse)
```

notoc The default behavior of the class is to provide a table of contents listing all activities in the course. This option will supress this table of contents.

```
1551 \newif\ifnotoc
1552 \notocfalse
1553 \DeclareOption{notoc}{\notoctrue}
```

nonewpage The default behavior of the class is to start each activity on a new page. This option will start activities without making a new page.

```
1554 \newif\ifnonewpage
1555 \nonewpagefalse
1556 \DeclareOption{nonewpage}{\nonewpagetrue}
1557 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{ximera}}
1558 \ProcessOptions\relax
1559 \LoadClass{ximera}
1560 % \begin{macrocode}
1561 \(/classXourse\)
```

3.1 Activities

The core of the xourse system. It works by redefining the document environment, thus making the \begin and \end{document} of the subfile 'transparent' to the inclusion. The redefinition of \documentclass is analogous, just having a required and an optional arguments which mean nothing to \subfile.

```
1562 \*classXourse\
1563 \newcommand{\skip@preamble}{%
1564 \let\document\relax\let\enddocument\relax%
1565 \newenvironment{document}{\let\input\otherinput}{}%
1566 \renewcommand{\documentclass}[2][subfiles]{}}
```

Note that the new command \subfile calls for \skip@preamble within a group. The changes to document and \documentclass are undone after the inclusion of the subfile.

Numbering starts a page too soon without this:

```
1567 \left( \begin{array}{c} 1567 \end{array} \right)
```

Store usual \maketitle as \othermaketitle

1568 \let\othermaketitle\maketitle

\maketitle In a xourse file, \maketitle is redefined to give course packet title page and toc.

```
1569 \renewcommand{\maketitle}{ %
1570 \pagestyle{empty}
1571 \begin{center}
1572 ~\\ %puts space at top of page to move title down.
1573 \vskip .25\textheight
1574 \hrulefill\\
1575 \vskip 1em
1576 \bfseries{\Huge \@title} \\
1577 \hrulefill\\
1578 \vskip 3em
1579 {\Large \@author}
1580 \vskip 2em
1581 {\large \@date}
1582 \end{center}
1583 \clearpage
```

When notoc option is used, we do not include a table of contents. Otherwise we include a table of contents in every course packet.

```
1584 \ifnotoc
1585 \else
1586 \tableofcontents\clearpage
1587 \clearpage
1588 \fi
```

Switch to main pagestyle, just like a document with documentclass ximera.

1589 \pagestyle{main}

Renew maketitle to usual definition.

1590 \let\maketitle\othermaketitle

And we finish with our redefinition of \maketitle.

```
1591 }
1592 \relax
1593 \/classXourse
```

3.1.1 Regular activities

\activity Documents included with \activity will be included in the body of the xourse document. Any \input commands within included ximera documents will be ignored. Any \usepackage commands within included ximera documents will cause an error. Overlapping \newcommand definitions within multiple ximera documents included simultaneously will cause an error. The \activity command inputs the file name provided without \documentclass, without \begin{document}/\end{document} and without any inputs in the preamble of the included file.

```
1594 (*classXourse)
1595 \ifnonewpage
1596 \newcommand{\activity}[2][]{%
1597 \setkeys{activity}{#1}
      \renewcommand{\input}[1]{}
1598
      \begingroup\skip@preamble\otherinput{#2}\endgroup\par\vspace{\topsep}
1599
     \let\input\otherinput}
1600
1601 \else
1602 \newcommand{\activity}[2][]{%
1603 \setkeys{activity}{#1}
      \renewcommand{\input}[1]{}
1605
      \begingroup\skip@preamble\otherinput{#2}\endgroup\clearpage
```

```
1606 \let\input\otherinput\}
1607 \fi
1608 \relax
1609 \/classXourse\\
1610 \\end{array}
1611 \renewcommand\activity[2][]{\%}
1612 \iffymode \IgnorePar\fi \EndP\HCode{\activity card \activitystyle" href="#2" data-op" 1613 \}
1614 \/htXourse\\

When running xake, we can just ignore activities
1615 \\end{array}
1616 \iffymake
1617 \renewcommand\activity[2][]{\}
1618 \fi
1619 \/classXourse\\

1619 \/classXourse\\
```

3.1.2 Practice activities

\practice Like \activity but not expecting a title.

```
1620 (*classXourse)
1621 \ifhandout
1622 \newcommand{\practice}[2][]{
1623 \setkeys{practice}{#1}%!!!!!
      \renewcommand{\input}[1]{}
1625
      \begingroup\skip@preamble\otherinput{#2}\endgroup
1626
      \let\input\otherinput}
1627 \else
1628 \newcommand{\practice}[2][]{\texttt{\detokenize{#2}}}% gives file name for practice
1629 \setkeys{practice}{#1}%!!!!!
      \renewcommand{\input}[1]{}
1630
1631
      \begingroup\skip@preamble\otherinput{#2}\endgroup
     \let\input\otherinput}
1632
1633 \fi
1634 \relax
1635 (/classXourse)
   The practice environment does nothing, but will eventually produce exercises at the
end of an activity
```

```
1636 (*classXourse)
1637 \ifxake
1638 \renewcommand\practice[2][]{}
1639 \fi
1640 (/classXourse)
```

I suppose it is reasonable for practice cards to NOT have an activity style, since the activity style is basically PRACTICE.

```
1641 \*htXourse\
1642 \renewcommand\practice[2][]{%
1643 \ifvmode\IgnorePar\fi\EndP%
1644 \HCode{\a class="activity card practice" href="#2" data-options="#1">#2</a>}%
1645 \IgnoreIndent%
1646 }
1647 \( /htXourse \)
```

3.2 Sectioning

Makes the table of contents look a bit better. This can be redefined in the preamble if \section you do not like the appearance. The name of a section inside an activity.

```
\subsection The name of a subsection inside an activity.
                                                  1651 (*classXourse)
                                                  1652 \ \texttt{\lossection} \\ \texttt{\lossection}
                                                  1653 (/classXourse)
                             \part Xourse files can have parts. The name of a large part of a xourse.
                                                  1654 (*htXourse)
                                                  1655 \newcounter{ximera@part}
                                                  1656 \setcounter{ximera@part}{0}
                                                  1657 \renewcommand\part[1] {%
                                                  1658 \stepcounter{ximera@part}%
                                                  1659 \ifvmode \IgnorePar\fi \EndP%
                                                  1660 \% HCode {<h1 id="part\arabic{ximera@part}" class="card part">} \#1\HCode {</h1>} \% makes cards discount of the part and the part are part and part are part are
                                                  1662 \IgnoreIndent%
                                                  1663 }
                                                  1664 (/htXourse)
          \paragraph Paragraph commands emit spans. A small heading.
                                                  1665 (*cfgXimera)
                                                  1666 \renewcommand{\paragraph}[1]{%
                                                                       \HCode{<span class="paragraphHead">}%
                                                  1668
                                                  1669
                                                                        \HCode{</span>}\par\IgnorePar}
                                                  1670 (/cfgXimera)
\subparagraph An even smaller heading.
                                                  1671 (*cfgXimera)
                                                  1672 \renewcommand{\subparagraph}[1]{%
                                                  1673
                                                                        \HCode{<span class="subparagraphHead">}%
                                                  1674
                                                  1675
                                                                        \HCode{</span>}\operatorname{IgnorePar}
                                                  1676 (/cfgXimera)
                                                  3.3
                                                                         Grading by points
    graded (env.) The graded environment does nothing in latex, but in html, it wraps the activities in a
                                                  div in order to assign some weight to them for grading.
                                                  1677 (*classXourse)
                                                  1678 \newenvironment{graded}[1]{}{}
                                                  1679 (/classXourse)
                                                  So indeed this environment in html wraps the activities in a div in order to assign some
                                                  number of points to them.
                                                  1680 (*htXourse)
                                                  1681 \renewenvironment{graded}[1]{%
                                                  1682 \ifvmode \IgnorePar\fi \EndP\\Code{<div class="graded" data-weight="#1">}\IgnoreIndent%
                                                  1685 }
                                                  1686 (/htXourse)
                                                  3.4
                                                                        Logos
                             \logo A logo for the xourse.
                                                  1687 (*classXourse)
                                                  1688 \newcommand*{\logo}[1]{%
                                                                        \ifx\@onlypreamble\@notprerr
                                                  1689
                                                                                \ClassError{xourse}{logo can only be used in the preamble}
                                                  1690
                                                  1691
                                                                                      {Move your logo command to the preamble}
                                                  1692
                                                                        \else %
                                                                               \IfFileExists{#1}%
                                                  1693
                                                                                      {\gdef\xourse@logo{#1}}%
                                                  1694
```

{\ClassError{xourse}{logo file does not exist}

1695

```
{To use logo, make sure that the referenced image file exists}}\%
1696
      \fi%
1697
1698 }
1699
_{1700}~\langle/\mathsf{classXourse}\rangle
   The xourse logo is an og:image in the opengraph taxonomy.
1701 (*htXourse)
1702 \Configure{@HEAD}{%
1703 \HCode{<meta name="og:image" content="}%
1704 \ifdefined\xourse@logo%
1705 \xourse@logo%
1706 \fi%
1707 \HCode{" />\Hnewline}}%
1708 (/htXourse)
```