The schedule package*

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Abstract

This package defines the `schedule` environment. This is primarily intended for constructing charts of recurring weekly appointments. It may also be used to create a schedule of events and sign-up sheets (for example, scheduling mandatory office visits with students for discussing paper topics, etc.)

This package requires the packages `calc` and `xcolor`.

1 Introduction

`schedule` provides a simple interface for creating graphical charts displaying weekly appointments. Many respects of the overall layout can be customized to suit the user's desires. Unless these default settings are changed, the created schedule will run from Monday to Friday, 8:00am to 5:00pm, and the only predefined command to insert appointments will be `\class`, which draws the appointment using black text on a medium-gray background.

The main feature of the `schedule` package is its accuracy in diagramming the length of appointments. Unlike some professionally available schedule creation programs, the representation of the length of appointments in the `schedule` package is accurate to the minute. In other words, if you have two appointments, one running from 2:00pm to 3:30pm on Tuesday and another running from 2:00pm to 3:31pm on Wednesday, there is a visible difference between the two representations. Unfortunately, unless you have a high-resolution printer (by which I mean more than 600 dpi) these differences will likely only be noticeable by a on-screen previewing program like `ghostview`.

2 Examples

The following schedule is typeset using the commands:

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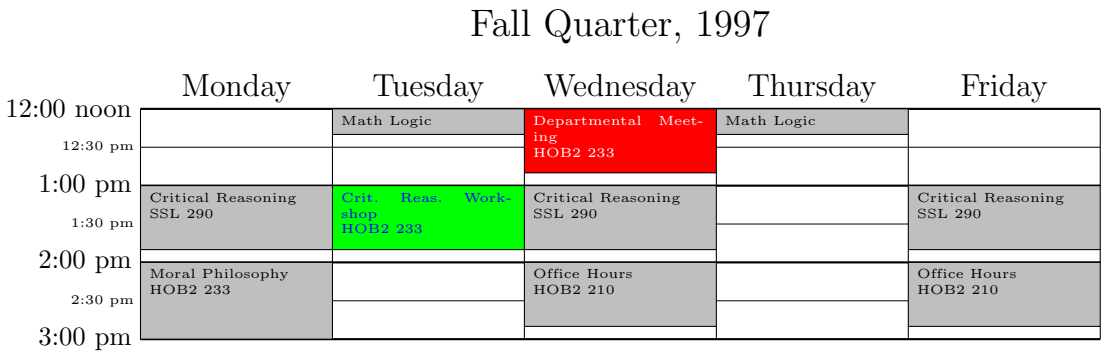
```
\CellHeight{.4in}
\CellWidth{1in}
\TimeRange{12:00-15:00}
\SubUnits{30}
\BeginOn{Monday}
\TextSize{\tiny}
\FiveDay
\TwelveHour

\NewAppointment{meeting}{red}{white}
\NewAppointment{workshop}{green}{blue}

\begin{schedule}[Fall Quarter, 1997]
  \class{Moral Philosophy}{HOB2 233}{M}{14:00-16:50}
  \class{Math Logic}{EIC 128}{T,Th}{11:00-12:20}
  \class{Critical Reasoning}{SSL 290}{M,W,F}{13:00-13:50}
  \meeting{Departmental Meeting}{HOB2 233}{W}{12:00-12:50}
  \workshop{Crit. Reas. Workshop}{HOB2 233}{T}{13:00-13:50}
  \class{Office Hours}{HOB2 210}{W,F}{14:00-14:50}
\end{schedule}
```

The result is:



This example demonstrates all of the user-customizable options. Note several "features" of the package:

1. Appointments falling outside of the specified time range for the schedule are automatically truncated to fit. If the appointment falls entirely outside of the time range, it is not printed at all.

2. The command `\class` is predefined to chart appointments pertaining to class attendence. New appointment types may be defined by the user via the `\NewAppointment` command. The new appointments may use any predefined color for the text or background. Note that the color package allows one to define new colors.

3. The boxes created to represent appointments are sized to be accurate to the minute. In other words, if you have two appointments, one 52 minutes long and the other 53 minutes long, the box representing the second appointment will be slightly longer.

4. The schedule is typeset in a centered displayed environment.

3 User Commands

`\CellHeight` Including `\CellHeight`⟨*length*⟩ before the schedule environment tells LaTeX 2ε what height to make the cells in the schedule (all cells have the same height). Since a cell corresponds to an hour in the schedule, this command allows the user to specify how much vertical space a single hour ought to take up.

`\CellWidth` Including `\CellWidth`⟨*width*⟩ before the schedule environment tells LaTeX 2ε how wide to make every cell in the schedule. The overall width of the schedule is determined by multiplying this value by the number of days (set by the `\FiveDay` or `\SevenDay` command), plus the width of the time labels on the left-hand side.

`\TimeRange` This command must appear before the schedule environment, otherwise LaTeX 2ε will not know how deep to make the grid. It is important to note that the time range is specified using a 24-hour format, with a *single* hyphen between the two times. Deviating from this format will generate an error.

`\SubUnits` The `\SubUnits`⟨*number*⟩ tells the package how to subdivide the hour. If one does not want any subdivisions, simply use `\SubUnits{60}`. The value of ⟨*number*⟩ can be any number than evenly divides 60. It is assumed that, in specifying this value, you know what you are doing: i.e., if you tell LaTeX 2ε to use a `\CellHeight` of 1in, but then set `\SubUnits{3}`, you will get 20 subdivisions (with times) in a cell only 1in high. In other words, the text on the left-hand side of the schedule will be typeset as a horrible mess. The solution is simple: if you want a large number of subdivisions, simply set `\CellHeight` to a greater value.

`\BeginOn` Including `\BeginOn`⟨*day*⟩ tells LaTeX what day of the week to start the schedule on. The possible values are 'Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', or 'Saturday'. My apologies for non-English speaking users of LaTeX. If there is a demand for it, I will fix this in future releases.

`\TextSize` With the `\TextSize`⟨*font-size*⟩ command, the user tells LaTeX what size font to use when typesetting the text inside the boxes. This command ought to be one of the standard LaTeX font-size commands, e.g., `\tiny`, `\scriptsize`, etc. Using two large of a font will almost always result in bad line breaks inside the boxes, though, due to the narrow width of a cell.

`\FiveDay` Tells LaTeX to typeset a five-day schedule.

`\SevenDay` Tells LaTeX to typeset a seven-day schedule.

`\TwelveHour` Tells LaTeX to typeset times using a 12-hour clock.

`\TwentyFourHour` Tells LaTeX to typeset times using a 24-hour clock.

`\NewAppointment` By using the `\NewAppointment` command, the user can customize the appearance of the schedule by changing the color of the text or the background color. The syntax is `\NewAppointment`⟨*appointment-name*⟩⟨*background-color*⟩⟨*text-color*⟩.

4 Source Code

```
\ProvidesFile{schedule.sty}
\NeedsTeXFormat{LaTeX2e}[2005/12/01]
\ProvidesPackage{schedule}[2019/7/31 v1.20 schedule package]
\RequirePackage{calc}
\RequirePackage{xcolor}
\definecolor{dark}{gray}{.75}
%
% CONSTANTS FOR THE WEEK
%
\def\@sunday{Su}
 \def\@Sunday{Sunday}
\def\@monday{M}
 \def\@Monday{Monday}
\def\@tuesday{T}
 \def\@Tuesday{Tuesday}
\def\@wednesday{W}
 \def\@Wednesday{Wednesday}
\def\@thursday{Th}
 \def\@Thursday{Thursday}
\def\@friday{F}
 \def\@Friday{Friday}
\def\@saturday{Sa}
 \def\@Saturday{Saturday}
%
% COUNTERS, LENGTHS, ETC.
%
\newlength{\cell@height}
 \setlength{\cell@height}{1in}
\newlength{\cell@width}
 \setlength{\cell@width}{1in}
\newlength{\box@depth}
\newcounter{sch@col@width} \setcounter{sch@col@width}{60}
\newlength{\box@width}
 \setlength{\box@width}{1in*(\value{sch@col@width}/60)}
\newlength{\col@width}
 \setlength{\col@width}{1in*(\value{sch@col@width}/60)}
\newlength{\sch@depth} \setlength{\sch@depth}{9in}
\newlength{\fill@length}
\newlength{\@temp@length}
\newlength{\@@temp@length}
\newlength{\line@thickness} % The thickness of the lines in the drawing
 \setlength{\line@thickness}{.4pt}
\newlength{\adjusted@cell@width}
\newlength{\adjusted@cell@height}

\newcounter{picture@units@wide}
\newcounter{xcoords}
\newcounter{ycoords}
```

```
\newcounter{timea}
\newcounter{timeb}
\newcounter{grid@width}
\newcounter{grid@height}
\newcounter{number@of@cells} % The number of VERTICAL cells
\newcounter{number@of@subcells}
\newcounter{number@of@days} % The number of days in the grid
\newcounter{dp@vlines} % The number of vertical lines actually needed is
                       % \value{number@of@days} + 1 ...
\newcounter{dp@hlines} % The number of horizontal lines actually needed is
                       % \value{number@of@cells} + 1 ...
\newcounter{dp@hcell@lines} % The number of horizontal lines that are
                       % either (1) associated with an hour, or
                       %        (2) on the top or bottom of the grid.
\newcounter{pu@cell@width}
\newcounter{pu@cell@height}
 \setcounter{pu@cell@height}{60}
\newcounter{pu@grid@top}
\newcounter{pu@grid@width}
\newcounter{pu@subticks}
\newcounter{start@time}
\newcounter{end@time}
\newcounter{x@coord} % Temporary x-coordinate
\newcounter{y@coord} % Temporary y-coordinate
\newcounter{@tempc}
\newcounter{@tempd}
\newcounter{label@sep}  % distance from label to gride
 \setcounter{label@sep}{5} %initialized to 5 picture units

\newcounter{x@Sunday}
\newcounter{x@Monday}
\newcounter{x@Tuesday}
\newcounter{x@Wednesday}
\newcounter{x@Thursday}
\newcounter{x@Friday}
\newcounter{x@Saturday}

\newsavebox{\temp@box}
\newif\ifweekends
\newif\iftwelve
\newcount\@i
\newcount\@j

\def\TimeRange#1{\compute@number@of@cells #1\end@compute}
\def\compute@number@of@cells#1:#2-#3:#4\end@compute{%
  \setcounter{number@of@cells}{#3-#1}%
  \setcounter{start@time}{#1}%
  \setcounter{end@time}{#3}}

\def\TextSize#1{\def\appt@textsize{#1}}
```

```
\TextSize{\scriptsize}

\def\IncludeWeekends{\weekendstrue}
\def\NoWeekends{\weekendsfalse}

\def\SevenDay{\weekendstrue}
\def\FiveDay{\weekendsfalse}
\def\TwelveHour{\twelvetrue}
\def\TwentyFourHour{\twelvefalse}

\def\CellHeight#1{\setlength{\cell@height}{#1}%
                  \setlength{\unitlength}{\cell@height*\ratio{1pt}{60pt}}}
\def\CellWidth#1{\setlength{\cell@width}{#1}%
                 \setcounter{pu@cell@width}{1*\ratio{\cell@width}{\unitlength}}}
\def\SubUnits#1{\setcounter{pu@subticks}{#1}%
                \setcounter{number@of@subcells}{60/\value{pu@subticks}}}

\def\calculate@grid@dimensions{%
  \ifweekends \setcounter{number@of@days}{7}
   \else \setcounter{number@of@days}{5}%
    \fi%
  \setcounter{dp@hcell@lines}{\value{number@of@cells}+1}
  \setcounter{grid@width}{\value{number@of@days}*\value{pu@cell@width}}%
  \setcounter{grid@height}{\value{number@of@cells}*60}
  \setcounter{dp@vlines}{\value{number@of@days}+1}
  \setcounter{dp@hlines}{\value{number@of@cells}*(60/\value{pu@subticks}) + 1}}


\def\draw@grid{%\calculate@grid@dimensions
  \linethickness{.2pt}%
  \multiput(0,0)(0,\value{pu@subticks}){\value{dp@hlines}}{\line(1,0){\value{grid@width}}}%
  \thicklines
  \multiput(0,0)(0,60){\value{dp@hcell@lines}}{\line(1,0){\value{grid@width}}}
  \thinlines}

\def\LineThickness#1{\setlength{\line@thickness}{#1}%
                     \linethickness{\line@thickness}%
                     \setlength{\adjusted@cell@width}{\cell@width - 1\line@thickness}
                     \setlength{\adjusted@cell@height}{\cell@height - 1\line@thickness}}


\def\@Su@week{{Sunday} {Monday} {Tuesday} {Wednesday} {Thursday} {Friday} {Saturday}}
\def\@M@week{{Monday} {Tuesday} {Wednesday} {Thursday} {Friday} {Saturday} {Sunday}}
\def\@T@week{{Tuesday} {Wednesday} {Thursday} {Friday} {Saturday} {Sunday} {Monday}}
\def\@W@week{{Wednesday} {Thursday} {Friday} {Saturday} {Sunday} {Monday} {Tuesday}}
\def\@Th@week{{Thursday} {Friday} {Saturday} {Sunday} {Monday} {Tuesday} {Wednesday}}
\def\@F@week{{Friday} {Saturday} {Sunday} {Monday} {Tuesday} {Wednesday} {Thursday}}
\def\@Sa@week{{Saturday} {Sunday} {Monday} {Tuesday} {Wednesday} {Thursday} {Friday}}

\def\BeginOn#1{\def\start@day{#1}}
```

```
149
150 \def\add@labels{%
151  \ifx\start@day\@Sunday \expandafter\do@days\@Su@week \relax
152   \else\ifx\start@day\@Monday \expandafter\do@days\@M@week \relax
153    \else\ifx\start@day\@Tuesday \expandafter\do@days\@T@week \relax
154     \else\ifx\start@day\@Wednesday \expandafter\do@days\@W@week \relax
155      \else\ifx\start@day\@Thursday \expandafter\do@days\@Th@week \relax
156       \else\ifx\start@day\@Friday \expandafter\do@days\@F@week \relax
157        \else\expandafter\do@days\@Sa@week \relax
158     \fi\fi\fi\fi\fi\fi}
159
160
161 \def\@sfor #1:=#2 \upto #3 \step #4 \do #5{%
162   #1=#2\relax%
163   \@whilenum #1<#3 \do {#5 \advance#1 by #4}#5}
164
165 \def\add@times{%
166   \setcounter{@tempc}{\value{start@time}}%
167   \@sfor \@i :=0 \upto \value{number@of@cells} \step 1 \do%
168     {\setcounter{x@coord}{0}%                                Set the x-coord right
169      \setcounter{y@coord}{\value{grid@height}-60*\@i}%       adjust for the right hour cell
170      \ifnum\value{@tempc}=0%
171         \iftwelve
172            \setcounter{@tempd}{\value{@tempc}+12}%
173            \put(\value{x@coord},\value{y@coord}){%
174            \makebox(0,0)[r]{\the@tempd:00~midnight~~}}% Midnight Hack
175         \else
176            \setcounter{@tempd}{\value{@tempc}}%
177            \put(\value{x@coord},\value{y@coord}){%
178            \makebox(0,0)[r]{\the@tempd:00~~}}% Midnight Hack
179         \fi
180      \else\ifnum\value{@tempc}=24%
181         \iftwelve
182            \setcounter{@tempd}{\value{@tempc}-12}%
183            \put(\value{x@coord},\value{y@coord}){%
184            \makebox(0,0)[r]{\the@tempd:00~midnight~}}% Midnight Hack
185         \else
186            \setcounter{@tempd}{\value{@tempc}}%
187            \put(\value{x@coord},\value{y@coord}){%
188            \makebox(0,0)[r]{\the@tempd:00~~}}% Midnight Hack
189         \fi
190      \else\ifnum\value{@tempc}>12%
191         \iftwelve
192            \setcounter{@tempd}{\value{@tempc}-12}%
193            \put(\value{x@coord},\value{y@coord}){%
194            \makebox(0,0)[r]{\the@tempd:00~pm~}}%
195         \else
196            \setcounter{@tempd}{\value{@tempc}}%
197            \put(\value{x@coord},\value{y@coord}){%
198            \makebox(0,0)[r]{\the@tempd:00~~}}%
```

```
      \fi
   \else\ifnum\value{@tempc}=12%
      \iftwelve
         \setcounter{@tempd}{\value{@tempc}}%
         \put(\value{x@coord},\value{y@coord}){%
         \makebox(0,0)[r]{\the@tempd:00~noon~}}% Noontime Hack
      \else
         \setcounter{@tempd}{\value{@tempc}}%
         \put(\value{x@coord},\value{y@coord}){%
         \makebox(0,0)[r]{\the@tempd:00~~}}%
      \fi
   \else
      \iftwelve
         \put(\value{x@coord},\value{y@coord}){%
         \makebox(0,0)[r]{\the@tempc:00~am~}}%
      \else
         \put(\value{x@coord},\value{y@coord}){%
         \makebox(0,0)[r]{\the@tempc:00~~}}%
      \fi
   \fi\relax%
   \fi\relax%
   \fi\relax%
   \fi\relax%
   \@sfor \@j := \value{pu@subticks} \upto 59 \step \value{pu@subticks} \do%
     {\ifnum\@i=\value{number@of@cells}%  Test to see if this should be the last label
         \relax%
      \else%
         \ifnum\@j=60%
           \relax%
         \else%
           \ifnum\@j<10%
             \def\the@minutes{0\the\@j}%
           \else\def\the@minutes{\the\@j}%
           \fi%
           \setcounter{y@coord}{\value{y@coord}-\@j}%
           \ifnum\value{@tempc}=0%
              \iftwelve
                 \setcounter{@tempd}{\value{@tempc}+12}%
                 \put(\value{x@coord},\value{y@coord}){%
                 \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~am~}}% Hack to get 12:xx AM ri
              \else
                 \setcounter{@tempd}{\value{@tempc}}%
                 \put(\value{x@coord},\value{y@coord}){%
                 \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~~}}
              \fi
           \else\ifnum\value{@tempc}=24%
              \iftwelve
                 \setcounter{@tempd}{\value{@tempc}-12}%
                 \put(\value{x@coord},\value{y@coord}){%
                 \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~am~}}% Hack to get 12:xx AM ri
```

```
                \else
                   \setcounter{@tempd}{\value{@tempc}}%
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~~}}
                \fi
             \else\ifnum\value{@tempc}>12%
                \iftwelve
                   \setcounter{@tempd}{\value{@tempc}-12}%
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~pm~}}% ...write the time (usin
                \else
                   \setcounter{@tempd}{\value{@tempc}}%
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~~}}
                \fi
             \else\ifnum\value{@tempc}=12%
                \iftwelve
                   \setcounter{@tempd}{\value{@tempc}}%
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~pm~}}% Hack to get 12:xx PM ri
                \else
                   \setcounter{@tempd}{\value{@tempc}}%
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempd:\the@minutes~~}}
                \fi
             \else
                \iftwelve
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempc:\the@minutes~am~}}% ...write the time (usin
                \else
                   \put(\value{x@coord},\value{y@coord}){%
                   \makebox(0,0)[r]{\tiny\the@tempc:\the@minutes~~}}
                \fi
             \fi%
             \fi%
             \fi%
          \fi%
       \fi%
       \fi%
       \setcounter{y@coord}{\value{y@coord}+\@j}}
    \addtocounter{@tempc}{1}}}%

\def\do@days#1#2#3#4#5#6#7{%
  \setcounter{x@coord}{1*\ratio{\value{pu@cell@width} pt}{2 pt}}%
  \setcounter{y@coord}{\value{grid@height}+\value{label@sep}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #1}}%
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #2}}%
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #3}}%
```

```
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #4}}%
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #5}}%
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \ifweekends
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #6}}%
  \setcounter{x@coord}{\value{x@coord}+\value{pu@cell@width}}%
  \put(\value{x@coord},\value{y@coord}){\makebox(0,0)[b]{\large #7}}\fi}


\def\set@x@coords@for@days{%
  \ifx\start@day\@Sunday%
    \@i=0\relax%
    \@tfor \@temp := {Sunday} {Monday} {Tuesday} {Wednesday} {Thursday} {Friday} {Saturday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{F}
    \def\skipday@ii{Sa}\fi
  \ifx\start@day\@Monday
    \@i=0\relax%
    \@tfor \@temp := {Monday} {Tuesday} {Wednesday} {Thursday} {Friday} {Saturday} {Sunday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{Sa}
    \def\skipday@ii{Su}\fi
  \ifx\start@day\@Tuesday
    \@i=0\relax%
    \@tfor \@temp := {Tuesday} {Wednesday} {Thursday} {Friday} {Saturday} {Sunday} {Monday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{Su}
    \def\skipday@ii{M}\fi
  \ifx\start@day\@Wednesday
    \@i=0\relax%
    \@tfor \@temp := {Wednesday} {Thursday} {Friday} {Saturday} {Sunday} {Monday} {Tuesday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{M}
    \def\skipday@ii{T}\fi
  \ifx\start@day\@Thursday
    \@i=0\relax%
    \@tfor \@temp := {Thursday} {Friday} {Saturday} {Sunday} {Monday} {Tuesday} {Wednesday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{T}
    \def\skipday@ii{W}\fi
  \ifx\start@day\@Friday
    \@i=0\relax%
    \@tfor \@temp := {Friday} {Saturday} {Sunday} {Monday} {Tuesday} {Wednesday} {Thursday} \do
```

```
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{W}
    \def\skipday@ii{Th}\fi
  \ifx\start@day\@Saturday
    \@i=0\relax%
    \@tfor \@temp := {Saturday} {Sunday} {Monday} {Tuesday} {Wednesday} {Thursday} {Friday} \do
      {\setcounter{x@\@temp}{\@i*\value{pu@cell@width}}%
       \advance\@i by 1}
    \def\skipday@i{Th}
    \def\skipday@ii{F}\fi
  }

% ------------------------------------------------------------------------
% Commands to insert info about an appointment
% ------------------------------------------------------------------------
\newif\ifset@start@time
\newif\ifset@end@time
\newif\ifsetboxdepth
\newif\ifinrange

\def\NewAppointment#1#2#3{% #1 = name, #2 = background color, #3 = textcolor
  \expandafter\def\csname #1\endcsname##1##2##3##4{%
     \setboxdepthtrue% assume we want to calculate the box depth
     \inrangetrue% assume the appt is in range
     \set@start@timetrue% assume we want to calculate the start time
     \set@end@timetrue% assume we want to calculate the end time
     \@includetrue% assume we will include it
     \edef\appt@name{#1}% save the appt name
     \edef\appt@color{#2}% save the background color
     \edef\appt@textcolor{#3}% save the save color
     \expandafter\def\csname #1@name\endcsname{##1}% save the name
     \expandafter\def\csname #1@location\endcsname{##2}% save the loc.
     \expandafter\def\csname #1@days\endcsname{##3}% save the days
     \expandafter\def\csname #1@time\endcsname{##4}% save the time
     \place@appt@box##3,\stop}}

\NewAppointment{class}{dark}{black}

\def\place@appt@box#1{%
  \ifx#1\stop \let\@next=\@gobble%
   \else \let\@next=\set@x@coords\fi\@next#1}

\def\set@x@coords#1,{\def\the@day{#1}%
 \ifx\the@day\@sunday\setcounter{xcoords}{\value{x@Sunday}}%
 \else\ifx\the@day\@monday\setcounter{xcoords}{\value{x@Monday}}%
  \else\ifx\the@day\@tuesday\setcounter{xcoords}{\value{x@Tuesday}}%
   \else\ifx\the@day\@wednesday\setcounter{xcoords}{\value{x@Wednesday}}%
    \else\ifx\the@day\@thursday\setcounter{xcoords}{\value{x@Thursday}}%
     \else\ifx\the@day\@friday\setcounter{xcoords}{\value{x@Friday}}%
```

```
      \else\setcounter{xcoords}{\value{x@Saturday}}%
       \fi\fi\fi\fi\fi\fi%
        \edef\@@temp{\csname \appt@name @time\endcsname}%
         \expandafter\set@y@coords\@@temp\stop}

\def\set@y@coords#1:#2-#3:#4\stop{%
  \def\@starthour{#1}%
  \def\@startminutes{#2}
  \def\@endhour{#3}%
  \def\@endminutes{#4}%
  \ifnum#1<\value{start@time} \setcounter{ycoords}{\value{grid@height}}%
                              \edef\@starthour{\value{start@time}}
                              \def\@startminutes{0}
                              \set@start@timefalse%
                              \fi%
  \ifnum#3<\value{end@time} \relax%
    \else \edef\@endhour{\value{end@time}}
          \def\@endminutes{0}%
          \setcounter{ycoords@bot}{0}
          \set@end@timefalse
  \fi %
  \ifset@start@time%
   \setcounter{ycoords}{\value{grid@height}-(60*(#1-\value{start@time})+#2)}\fi%
  \ifset@end@time%
    \setcounter{ycoords@bot}{\value{grid@height}-(60*(#3-\value{start@time})+#4)}\fi%
  \setlength{\box@depth}{\@endhour\cell@height + (\cell@height*\ratio{\@endminutes pt}{60pt}) %
        - \@starthour\cell@height - (\cell@height*\ratio{\@startminutes pt}{60pt})}%
  \ifnum#1<\value{end@time} \relax\else \inrangefalse \fi%
  \draw@appt@box\place@appt@box}

\newif\if@include

\def\draw@appt@box{%
   \ifweekends \relax % if we use 7-days, this won't change
   \else \ifx \the@day\skipday@i \@includefalse \fi % first condition for change
         \ifx \the@day\skipday@ii \@includefalse \fi\fi % second condition for change
  \ifinrange \relax\else \@includefalse \fi %
  \if@include %
  \put(\value{xcoords},\value{ycoords}){\colorbox{\appt@color}{\parbox[t]{\cell@width}{\ %
        \vspace{\box@depth}}}}
  \thinlines
  \put(\value{xcoords},\value{ycoords}){\line(1,0){\value{pu@cell@width}}}
  \put(\value{xcoords},\value{ycoords@bot}){\line(1,0){\value{pu@cell@width}}}
  \put(\value{xcoords},\value{ycoords}){%
        \  \parbox[t]{\cell@width-8pt}{\mbox{}\\ \appt@textsize %
        \ifdim\box@depth>\baselineskip
        \textcolor{\appt@textcolor}{\csname \appt@name @name\endcsname} \\ %
        \ifdim\box@depth>2\baselineskip
        \textcolor{\appt@textcolor}{\csname \appt@name
        @location\endcsname}\fi\fi }}\fi}
```

```
449
450 \def\convert@class@time#1:#2-#3:#4\end@time{%
451   {\count1=#1\relax%
452    \count3=#3\relax%
453    \ifnum#1>12 \advance\count1 by -12\fi\relax%
454    \ifnum#3>12 \advance\count3 by -12\fi\relax%
455    \ifnum#1<12\relax%
456     \ifnum#3<12\relax \mbox{\the\count1:#2am--\the\count3:#4am}\relax%
457      \else \mbox{\the\count1:#2am--\the\count3:#4pm}\fi\relax%
458       \else \mbox{\the\count1:#2pm--\the\count3:#4pm}\fi\relax}}
459
460 \def\compute@box@depth#1:#2-#3:#4\end@bx{%
461   \setlength{\box@depth}{#3\cell@height + (\cell@height*\ratio{#4pt}{60pt}) %
462          - #1\cell@height - (\cell@height*\ratio{#2pt}{60pt})}}
463
464 \newcounter{ycoords@bot}
465
466 \newcounter{x@tempa}
467 \newcounter{x@tempb}
468 \newcounter{y@tempa}
469 \newcounter{y@tempb}
470 \newcounter{temp@cnt@a}
471
472 \newlength{\title@height}
473 \newlength{\label@height}
474  \settoheight{\label@height}{Wednesday}
475
476 \newcounter{pu@label@width}
477 \newlength{\center@hack}
478
479 \newenvironment{schedule}[1][:]%
480 {\bigskip
481  \calculate@grid@dimensions%
482  \setcounter{pu@grid@width}{\value{pu@cell@width}*\value{number@of@days}}%
483  \settowidth{\@temp@length}{\normalsize 12:00\ pm\ }%
484  \setcounter{pu@label@width}{1*\ratio{\@temp@length}{\unitlength}}%
485  \setcounter{pu@grid@top}{\value{grid@height}+(1*\ratio{\label@height}{\unitlength}) + %
486     (1*\ratio{.25in}{\unitlength})}%
487  \if#1:\relax \else%
488   \settoheight{\title@height}{\large #1}%
489   \addtocounter{pu@grid@top}{1*\ratio{\title@height}{\unitlength}}%
490  \fi%
491  \setlength{\center@hack}{(.5\linewidth-.5\unitlength*\value{pu@grid@width}+%
492    .5\unitlength*\value{pu@label@width})}%
493  \noindent\hspace*{\center@hack}%
494  \begin{picture}(\value{pu@grid@width},\value{pu@grid@top})%
495  \draw@grid
496  \add@labels
497  \if#1:\relax \else
498   \setcounter{ycoords}{\value{grid@height}+(1*\ratio{\label@height}{\unitlength}) + %
```

```
    (1*\ratio{.25in}{\unitlength})}
  \setcounter{xcoords}{1*\ratio{\value{pu@grid@width} pt}{2 pt}}
 \put(\value{xcoords},\value{ycoords}){\makebox(0,0)[b]{\Large #1}}
 \fi
 \add@times
 \set@x@coords@for@days}
{\multiput(0,0)(\value{pu@cell@width},0){\value{dp@vlines}}{\line(0,1){\value{grid@height}}}
 \end{picture}\bigskip}

\setlength{\fboxsep}{0in}
```

Change History

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

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