HOMEWORK2

Andrejs Komisarovs

February 2019

Week 2

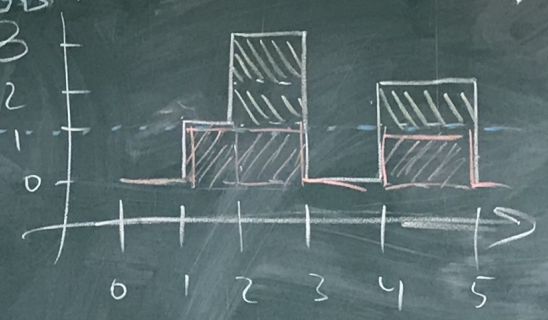
TO DO:
- R course on DataCamp
- "HW 1 code on GITHUB

D.L. 2019-02-06 : 23:55
- Complete CLASS JOBS

2019-02-13 - 14:30
upload HW 1 (made using R)

SYSTEM
Queue
SERVER

L_{SYS}



L_{SYS}

$L_q + L_{SRV}$

□ = [job · time]

3) $\frac{6}{5} = L_{SYS}$ $\left[\frac{\square}{time} = \frac{job \cdot time}{time} = job\right]$

2) $\frac{3}{5} = L_q$ $\left[\frac{\square}{time} = job\right]$

1) $\frac{3}{5} = L_{SRV}$ $\left[\frac{\square}{time} = job\right]$

$L_{SYS} = L_q + L_{SRV}$

Week 2

To do:

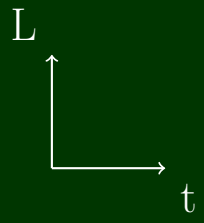
- R course on DataCamp
- HW1 code on GitHub

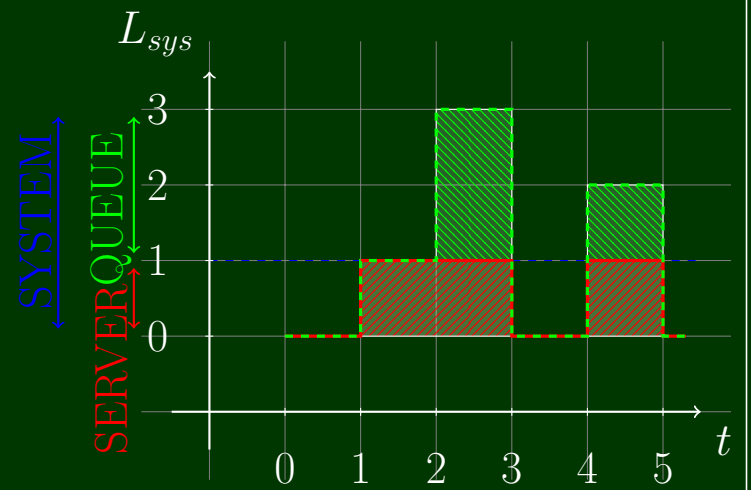
D.L 2019-02-06 23:55

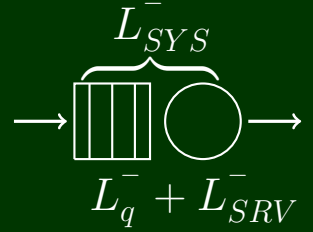
. compute CLASS JOB:

2019-02-13 14:30

upload HW1 (made using R)







$$\square = \left[job.time \right]$$

3. $\frac{6}{5} = L_{SYS}^{-} \left[\frac{\square}{time} = \frac{job.time}{time} = job \right]$

2. $\frac{3}{5} = L_q^{-} \left[\frac{\square}{time} = job \right]$

1. $\frac{3}{5} = L_{SRV}^{-} \left[\frac{\square}{time} = job \right]$

$$L_{SYS} = L_q + L_{SRV}$$

```
\documentclass[17pt]{extreport}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}
\usepackage{comment}
\usepackage{amsmath}
\usepackage{latexsym}
\usepackage{tikz}
\usetikzlibrary{patterns}
\usepackage{etaremune}
\usepackage[paper=portrait,pagesize]{typearea}
\usepackage{geometry}
\geometry{legalpaper, landscape, papersize={15cm,32cm}, left=3mm, top=9mm, right=3mm, bottom=9mm}
\usepackage{multicol}
\usepackage{graphicx}

\title{HOMEWORK2}
```

```
\author{Andrejs Komisarovs}
\date{February 2019}

\begin{document}

\eject \pdfpagewidth=32cm \pdfpageheight=15cm  \maketitle

\eject \pdfpagewidth=32cm \pdfpageheight=15cm
\section*{}
\includegraphics[width=\textwidth,height=10cm]{IMG_0629.jpg}

\eject \pdfpagewidth=32cm \pdfpageheight=15cm

\pagecolor{green!21!black}
\color{white}
```

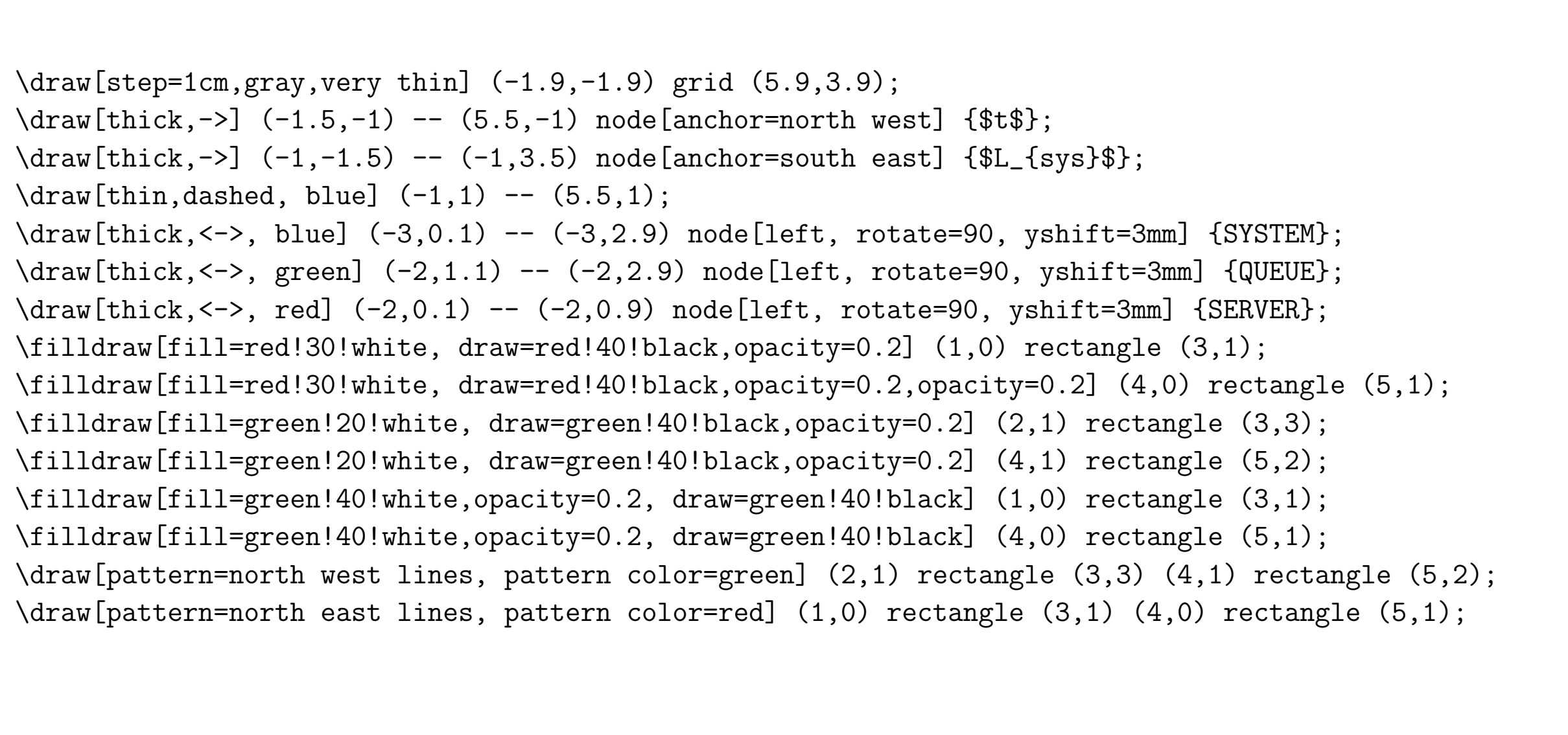
```
\vspace{\fill}
\setlength{\columnsep}{-1cm}
\setlength{\columnseprule}{0.6pt}
\def\columnseprulecolor{\color{white}}
\begin{multicols}{3}
[
\section*{Week 2}
]

\begin{itemize}
    \item[$ $]To do:
    \begin{itemize}
        \item R course on DataCamp
        \item HW1 code on GitHub
    \end{itemize}
    \item[$ $]D.L  2019-02-06 23:55
```

```
    \begin{itemize}
        \item[$.$] compute CLASS JOB:
    \end{itemize}
    \item[$ $]\hspace{20pt}2019-02-13 14:30
    \begin{itemize}
        \item[$ $]upload \underline{HW1} (made using R)\\
        \begin{tikzpicture}\hspace{30pt}
        \draw[thick,->] (0,0) -- (1.5,0) node[anchor=north west] {t};
        \draw[thick,->] (0,0) -- (0,1.5) node[anchor=south east] {L};
        \end{tikzpicture}
    \end{itemize}
\end{itemize}

\columnbreak

\begin{tikzpicture}
```



```
\draw[step=1cm,gray,very thin] (-1.9,-1.9) grid (5.9,3.9);
\draw[thick,->] (-1.5,-1) -- (5.5,-1) node[anchor=north west] {$t$};
\draw[thick,->] (-1,-1.5) -- (-1,3.5) node[anchor=south east] {$L_{sys}$};
\draw[thin,dashed, blue] (-1,1) -- (5.5,1);
\draw[thick,<->, blue] (-3,0.1) -- (-3,2.9) node[left, rotate=90, yshift=3mm] {SYSTEM};
\draw[thick,<->, green] (-2,1.1) -- (-2,2.9) node[left, rotate=90, yshift=3mm] {QUEUE};
\draw[thick,<->, red] (-2,0.1) -- (-2,0.9) node[left, rotate=90, yshift=3mm] {SERVER};
\filldraw[fill=red!30!white, draw=red!40!black,opacity=0.2] (1,0) rectangle (3,1);
\filldraw[fill=red!30!white, draw=red!40!black,opacity=0.2,opacity=0.2] (4,0) rectangle (5,1);
\filldraw[fill=green!20!white, draw=green!40!black,opacity=0.2] (2,1) rectangle (3,3);
\filldraw[fill=green!20!white, draw=green!40!black,opacity=0.2] (4,1) rectangle (5,2);
\filldraw[fill=green!40!white,opacity=0.2, draw=green!40!black] (1,0) rectangle (3,1);
\filldraw[fill=green!40!white,opacity=0.2, draw=green!40!black] (4,0) rectangle (5,1);
\draw[pattern=north west lines, pattern color=green] (2,1) rectangle (3,3) (4,1) rectangle (5,2);
\draw[pattern=north east lines, pattern color=red] (1,0) rectangle (3,1) (4,0) rectangle (5,1);
```

```
\draw[very thick,-,red] (0,0)--(1,0)--(1,1)--(3,1)--(3,0)--(4,0)--(4,1)--(5,1)--(5,0)--(5.3,0);
\draw[very thick,dashed,green] (0,0)--(1,0)--(1,1)--(2,1)-- (2,3)-- (3,3)--(3,0)--(4,0)--(4,2)--(5,2)-

\foreach {\x} in {0,1,2,3,4,5}
    \draw (\x cm,-27pt) -- (\x cm,-30pt) node[anchor=north,yshift=-3mm] {$\x$};
\foreach {\y} in {0,1,2,3}
    \draw (-27pt,\y cm) -- (-30pt,\y cm) node[anchor=east,xshift=-3mm] {$\y$};

\end{tikzpicture}

\begin{center}
\begin{tikzpicture}

\draw[white, thick] (0,0) -- (1,0) -- (1,1) -- (0,1) -- (0,0);
\draw[white, thick] (0.2,0) -- (0.2,1);
\draw[white, thick] (0.5,0) -- (0.5,1);
```

```
\draw[white, thick] (0.8,0) -- (0.8,1);
\draw[white,thick](1.7,0.5) circle (0.5);
\draw[very thick,->] (-0.8,0.5) -- (-0.1,0.5);
\draw[very thick,->] (2.3,0.5) -- (3,0.5);
\node[text width=4cm] at (2.2,-0.5) {$L_{q}^{^-}+L_{SRV}^{^-}$};
\node[text width=4cm] at (2.5,1.8) {$L_{SYS}^{^-}$};
\node[rotate=270] at (1,1.2) {\Bigg\{};

\end{tikzpicture}
\end{center}

\columnbreak

\centering $\Box = \Bigg\lbrack job.time \Bigg\rbrack$
\begin{center}
\begin{etaremune}[leftmargin=2cm]
```

```
    \item $\frac{6}{5}=L_{SYS}^{^-}\Bigg\lbrack\frac{\Box}{time}=\frac{job.time}{time}=job\Bigg\rbrack
    \item $\frac{3}{5}=L_{q}^{^-}\Bigg\lbrack\frac{\Box}{time}=job\Bigg\rbrack$
    \item $\frac{3}{5}=L_{SRV}^{^-}\Bigg\lbrack\frac{\Box}{time}=job\Bigg\rbrack$
\end{etaremune}

\begin{tabular}{|c|}
\hline
\\
$L_{SYS}=L_{q}+L_{SRV}$ \\
\\
\hline
\end{tabular}
\end{center}

\end{multicols}
```

```
\vspace{\fill}

\eject \pdfpagewidth=32cm \pdfpageheight=15cm
\pagecolor{white}
\color{black}
%seit bus kods
 \begin{verbatim}
```