Data Technologies
R and HTML

R2HTML

The hard work is done by the `HTML()` generic function.
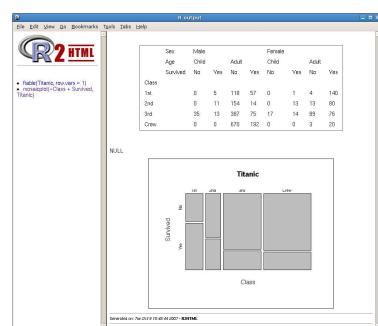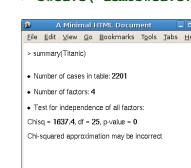
```
> HTML(ftable(Titanic, row.vars=1))

<p align= center >
<table cellspacing=0 border=1>
    <caption align=bottom class=captiondataframe>
    </caption>
    <tr><td>
        <table border=0 class=dataframe>
            <td class=cellinside>         </td>
            <td class=cellinside>Sex      </td>
            <td class=cellinside> Male    </td>
            <td class=cellinside>         </td>
    ...
```

Background Reading

Chapters 2 and 3 of "Introduction to Data Technologies"

The Web Design Group HTML 4 Reference
http://htmlhelp.com/reference/html40/

Eric Lecoutre, "The R2HTML Package", R News, 3(3), pp. 33–36.

The Sweave manual
http://www.ci.tuwien.ac.at/ leisch/Sweave/

Sweave

Sweave is a tool that allows you to write a document, e.g., `report.Rnw`, with embedded R code.

The function `Sweave()` runs the code chunks and replaces them with the corresponding R output. The result can be a latex document called `report.tex` or, with the R2HTML package, an HTML document called `report.html` (or with the odfWeave package, an ODF document).

- Analysis code and report in one file.

- Output always up to date; always corresponds to the code.

- Reproducible research.

R2HTML

The R2HTML package assists in the creation of HTML reports by generating HTML code from R objects.

```
library(R2HTML)

HTMLStart(outdir=".", filename="demoR2HTML")

ftable(Titanic, row.vars=1)

mosaicplot( ~ Class + Survived, Titanic)
HTMLplot(Height=400)

HTMLStop()
```

## Sweave

A file called `demoSweave.Rnw`.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transit
<html>
    <head>
        <title>A Minimal HTML Document</title>
    </head>
    <body>

<<>>=
summary(Titanic)

@
    </body>
</html>
```

Sweave

This is processed by typing ...

```
> Sweave("demoSweave.Rnw", driver=RweaveHTML)
```

Sweave

A file called demoSweave.html.

```html
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transit:
<html>
    <head>
        <title>A Minimal HTML Document</title>
    </head>
<link rel=stylesheet type=text/css href=R2HTML.css><
<!-- begin{Schunk} !-->
<!-- begin{Sinput} !-->
<p><xmp class=command>> summary(Titanic)</xmp></p>
<!-- end{Sinput} !-->
<br><li>Number of cases in table:<b> 2201 </b>
<br><br><li>Number of factors:<b> 4 </b>
<br><br><li>Test for independence of all factors:
<br><p class='character'> Chisq = <b>1637.4</b>, df :
```

Sweave

- The R code can be hidden echo=FALSE

- If the code produces a plot, that can be automatically included fig=TRUE

- The result of the last expression in a code chunk is automatically formatted using HTML(), unless results=html or results=hide.

R2HTML and Sweave

The HTML formatting produced by R2HTML is not always very nice. If you want to just show the normal printed format from R, use the following function:

```r
printVerbatim <- function(x) {
    tc <- textConnection("Routput", "w")
    sink(tc)
    print(x)
    sink()
    close(tc)
    cat(Routput, file=.HTML.file, sep="\n")
}
```