

# Test functionality of R-Studio / MikTeX install.

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A document using many  $\text{\LaTeX}$  features to test *on-the-fly* installation of packages by MikTeX.

**How to use.** When everything is set up correctly (MikTeX install paths, write access to same), `Compile PDF` should generate a PDF much like the one in the `reference_results` folder. Things to watch:

- Tools → Global options → Sweave, select knitr for weaving, and don't enable Rnw concordance.
- If PDF generation succeeds with minor errors the remaining processing to generate references may not be done, fix the minor errors.

Citation test: ([Greenwade, 1993](#)).

## 1 Basic output

Simple echoed command with output

```
summary(cars)
```

speed		dist	
Min.	: 4.0	Min.	: 2.00
1st Qu.	:12.0	1st Qu.	: 26.00
Median	:15.0	Median	: 36.00
Mean	:15.4	Mean	: 42.98
3rd Qu.	:19.0	3rd Qu.	: 56.00
Max.	:25.0	Max.	:120.00

## 2 Formula

Equations with LaTeX inline  $E = mc^2$  and displayed, `$$ eqn $$` and `\[ eqn \]` both work.

$$I = \sum \frac{P \times V}{1}$$

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Equation with MathML (wouldn't expect this to work in  $\text{\LaTeX}$ )

```

<math><mrow>
  <mi>a</mi> <mo>&InvisibleTimes;</mo> <msup> <mi>x</mi> <mn>2</mn> </msup>
  <mo>+</mo> <mi>b</mi> <mo>&InvisibleTimes;</mo> <mi>x</mi>
  <mo>+</mo> <mi>c</mi>
</mrow></math>

```

### 3 Plots

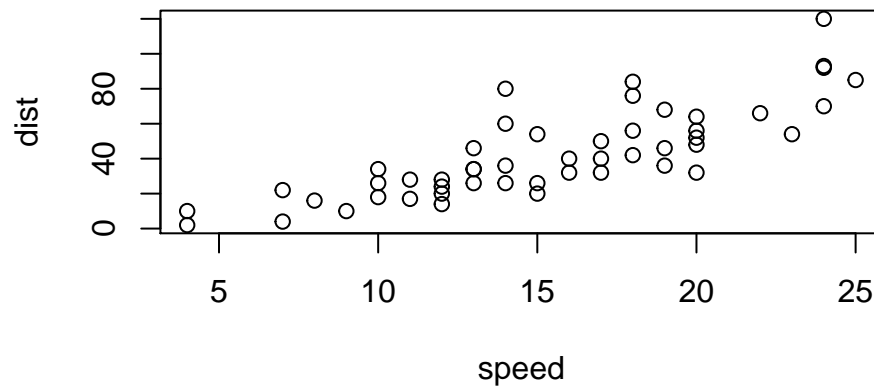


Figure 1: Distance vs. speed

### 4 Images



Figure 2: Test image caption.

### 5 Tables

#### 5.1 “knitr kable()” function:

```
library(knitr)
kable(summary(cars))
```

speed	dist
Min. : 4.0	Min. : 2.00
1st Qu.:12.0	1st Qu.: 26.00
Median :15.0	Median : 36.00
Mean :15.4	Mean : 42.98
3rd Qu.:19.0	3rd Qu.: 56.00
Max. :25.0	Max. :120.00

## 5.2 “pander”

doesn't work in  $\text{\LaTeX}$ <sup>1</sup>:

```
library(pander)

## Warning: package 'pander' was built under R version 3.1.3

pander(summary(cars))
```

```

----- speed dist -----
1st Qu.:12.0 1st Qu.: 26.00
Median :15.0 Median : 36.00
Mean :15.4 Mean : 42.98
3rd Qu.:19.0 3rd Qu.: 56.00
Max. :25.0 Max. :120.00 -----
```

## 5.3 “xtable”:

```
library(xtable)

## Warning: package 'xtable' was built under R version 3.1.3

options(xtable.type='latex')
print(xtable(summary(cars)), include.rownames=FALSE)
```

speed	dist
Min. : 4.0	Min. : 2.00
1st Qu.:12.0	1st Qu.: 26.00
Median :15.0	Median : 36.00
Mean :15.4	Mean : 42.98
3rd Qu.:19.0	3rd Qu.: 56.00
Max. :25.0	Max. :120.00

<sup>1</sup>[http://kbroman.org/knitr\\_knutshell/pages/latex.html](http://kbroman.org/knitr_knutshell/pages/latex.html)

## References

Greenwade, G. D. (1993). The Comprehensive Tex Archive Network (CTAN). *TUGBoat*, 14(3):342–351.