

# Open Science Tools

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# Goals

- ▶ literate programming

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- ▶ Rmarkdown - documents/figures

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- ▶ Rmarkdown - documents/figures
- ▶ Rmarkdown - slideshows

## Literate programming

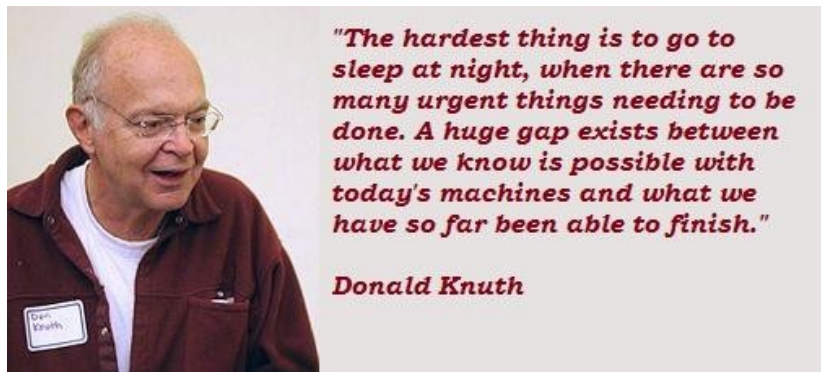


Figure 1: Donald Knuth

# Degrees of goodness

sad code

good clean code

literate code

- ▶ *easy for others to understand (including you later)*

# Degrees of goodness

sad code

good clean code

literate code

- ▶ *easy for others to understand (including you later)*
- ▶ *easy to incorporate new data*

# Degrees of goodness

sad code

good clean code

literate code

- ▶ *easy for others to understand (including you later)*
- ▶ *easy to incorporate new data*
- ▶ *easy to deal with reviewers comments*



# Why Rmarkdown?

- ▶ *increasingly wide usage*

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- ▶ *plain text*

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- ▶ *increasingly wide usage*
- ▶ *plain text*
- ▶ *using knitr gives simple and effective products: pdf, html, slideshows*

# Parts of a Rmarkdown document

- ▶ header

# Parts of a Rmarkdown document

- ▶ header
- ▶ text

# Parts of a Rmarkdown document

- ▶ header
- ▶ text
- ▶ code blocks

# Parts of a Rmarkdown document

- ▶ header
- ▶ text
- ▶ code blocks
- ▶ sections with #, ##, ###

# Activity 1

File -> New File -> R Markdown -> html -> OK

Using the template you have opened make an R markdown file that explores the `chickwts` dataset.

Make an awesome histogram of chick weights

Make an awesome barplot of chick weights parsed by feed

```
` ``{}
```

```
data()
```

```
hist()
```

```
boxplot()
```

```
` ``
```



## Activity 2

Generate a pdf file for submission to a journal

```
pdf(file="fig1.pdf", width = 4, height = 4)  
dev.off()
```

## Activity 3

Save a second copy of your markdown file and change it into a  
slideshow

in the header: `output: ioslides_presentation`

in code blocks use the `echo = F` argument in your code blocks

# Conclusion

You have all the tools you need go do awesome things!