

knitr: Starting From Reproducible Homework

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knitr = knit + R

Sweave = S + weave

my homework & solutions in past three years at Iowa State¹

¹e.g. <https://github.com/yihui/stat579/downloads>

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(but do keep them away from Word)

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The value of π is `pi`, and a Monte Carlo estimate is:

```
```{r}
est_pi = function(n) {
 x = runif(n, -1, 1)
 y = runif(n, -1, 1)
 4 * mean(x^2 + y^2 <= 1)
}
est_pi(10000)
```
```

The value of π is 3.1416, and a Monte Carlo estimate is:

```
est_pi = function(n) {  
  x = runif(n, -1, 1)  
  y = runif(n, -1, 1)  
  4 * mean(x^2 + y^2 <= 1)  
}  
est_pi(5000)  
  
## [1] 3.128
```


reproducible homework (happier students, happier professors)

evidence that we underestimated the power and imagination of students: <http://www.rpubs.com>

written in R, but not for R only (bash scripts, C++, ...)

If reproducible homework comes, can reproducible research be far behind?

IN CODE WE TRUST