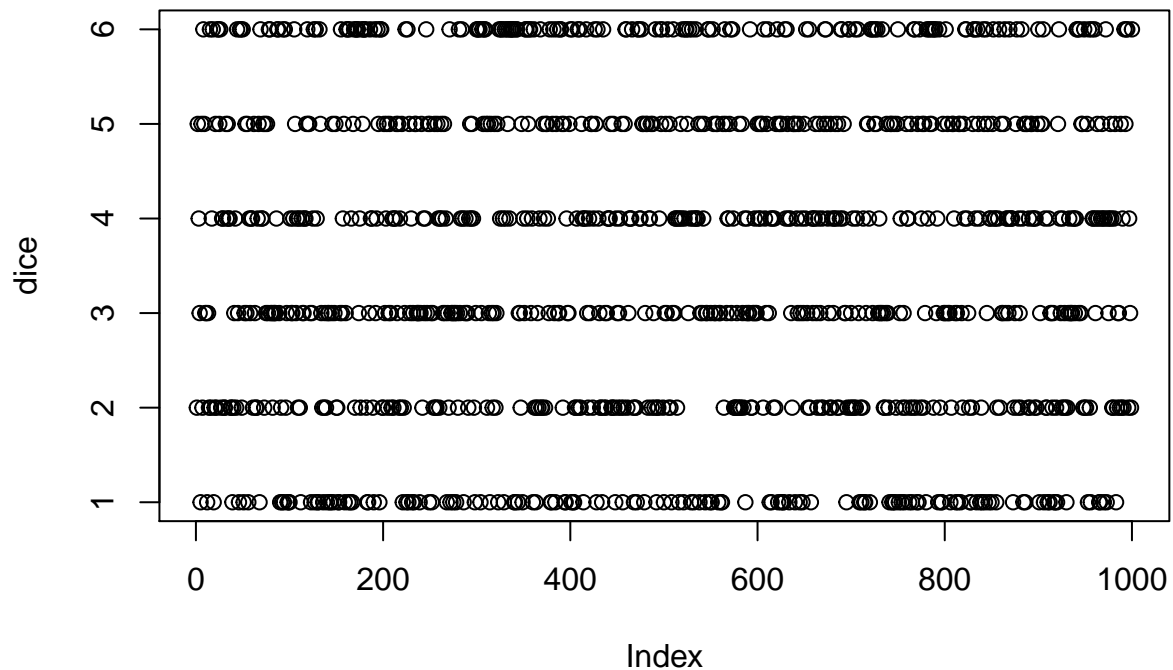# math456 hw3

Luke Geel

2/22/2022

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```r
n_random = 10
beta = 2
U = runif(n_random, min = 0, max = 1)
Y = (-1/beta)*log(1-U)
Y
```

```
##  [1] 0.06557091 0.33533600 1.99234733 0.28300960 0.63743655 0.26266211
##  [7] 1.22506521 1.15983274 0.25345151 1.21320618
```

```r
dice <-  sample(1:6, size = 1000, replace = TRUE)
plot(dice)
```

```r
p = 0
if (dice == 1){
  p = p + 1
}
```

```
## Warning in if (dice == 1) {: the condition has length > 1 and only the first
## element will be used
```

```r
p
```

```
## [1] 0
```

```r
#going to simulate 100 dice rolls
x <-  sample(1:6, 100, replace=TRUE)
count_a <-  0
count_b <-  0
count_ab <-  0
for (val in x){
  if (x == 2 | x == 4 | x == 6 ) {
    count_a = count_a + 1}
  if (x == 1 | x == 2 | x == 3 | x == 4) {
    count_b = count_b + 1}
  if (x == 2 | x == 4 ) {
    count_ab = count_ab + 1}
}
```

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```r
proportion_a = count_a /100
proportion_b = count_b/100
proportion_ab = count_ab/100
print("proportion of a:")
```

```
## [1] "proportion of a:"
```

```r
proportion_a
```

```
## [1] 1
```

```r
print("proportion of b:")
```

```
## [1] "proportion of b:"
```

```
proportion_b
```

```
## [1] 0
```

```
print("proportion of ab:")
```

```
## [1] "proportion of ab:"
```

```
proportion_ab
```

```
## [1] 0
```