



R Code for Examples in the book  
*"Statistics: The Art and Science of Learning from Data"*  
 by Agresti, Franklin and Klingenberg, 5<sup>th</sup> edition

## Chapter 4

### Example 4: Drawing Prize Winners – Simple Random Samples

To draw a sample of size 2 from 60 raffle tickets

```
sample(60, 2)
```

```
## [1] 9 38
```

To obtain all the combinations of drawing samples of size  $m$  from  $n$  objects, use `combn(n, m)`. For example, to obtain all combinations of samples of size 2 from 8 objects, you can use

```
combn(5, 2)
```

```
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]
## [1,]    1    1    1    1    2    2    2    3    3    4
## [2,]    2    3    4    5    3    4    5    4    5    5
```

To obtain the number of all possible combinations of samples of size  $m$  from  $n$  objects, use `ncol(combn(n, m))`. For example, to obtain the number of all combinations of samples of size 2 from 60 raffle tickets, you can use

```
ncol(combn(60, 2))
```

```
## [1] 1770
```