Sampling from a multivariate distribution

Imagine we want to simulate how sample size affects our ability to find a correlation between two variables in a population where we know the actual correlation between them is .5

We can do this using the `mvrnorm()` function - which works a lot like `rnorm()` except we need to specify a few extra bits of information related to the covariance structure of the two variables we're interested in - think of the covariance structure as a way of formally capturing the relationship between the two variables.

```
mvrnorm(n, mu, mysigma, empirical = TRUE)
```

In this case `n` is our number of sample, `mu` is a vector containing the means of our variables, `mysigma` is the covariance matrix and empirical takes a logical value which we set to `TRUE` if we want our variables to have the exact correlation we are interested in (i.e., `mu` and `mysigma` are interpreted as the empirical rather than population values).