Pretend sample, correlation test

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On this test will be create some fake data, just to have a better view of the linear graph since my original Data didn't really work for this test.

```
head(trees)
```

```
  Girth Height Volume
1   8.3     70   10.3
2   8.6     65   10.3
3   8.8     63   10.2
4  10.5     72   16.4
5  10.7     81   18.8
6  10.8     83   19.7
```

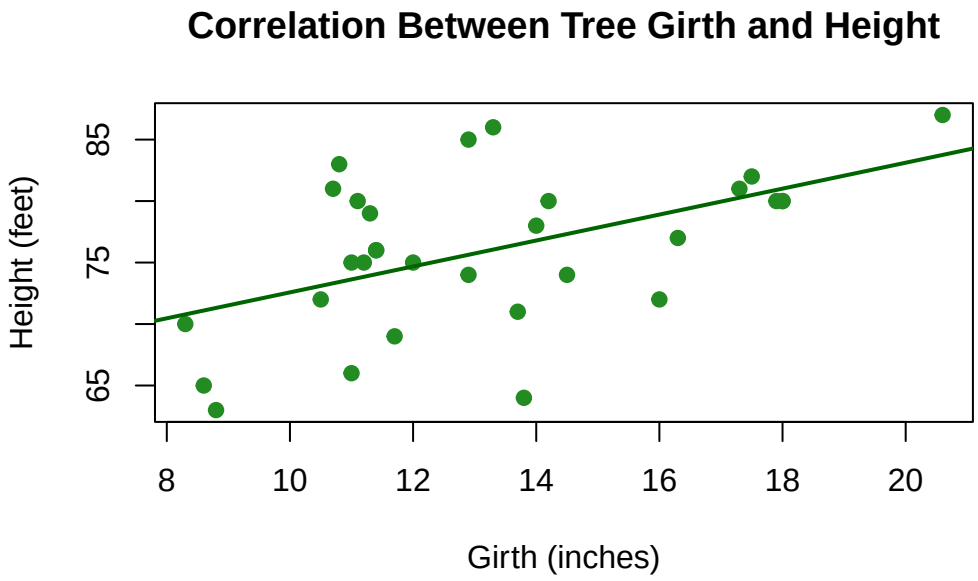
```
cor.test(trees$Girth, trees$Height, method = "pearson")
```

```
    Pearson's product-moment correlation

data:  trees$Girth and trees$Height
t = 3.2722, df = 29, p-value = 0.002758
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.2021327 0.7378538
sample estimates:
      cor
0.5192801
```

```r
plot(trees$Girth, trees$Height,
     main = "Correlation Between Tree Girth and Height",
     xlab = "Girth (inches)",
     ylab = "Height (feet)",
     pch = 19,
     col = "forestgreen")

# Add a regression line
abline(lm(Height ~ Girth, data = trees), col = "darkgreen", lwd = 2)
```



On this example a correlation test was conducted to check the relationship between the girth of trees and their height. The results showed a strong correlation, r= 0.519, $p < 0.001$, which means that larger tree girths are associated. so the relationship is statistically significant.