

```

set.seed(1234)
data <- data.frame(mvrnorm(n, mu, mysigma, empirical = TRUE))
colnames(data) <- c("Var_1", "Var_2")

ggplot(data, aes(x = Var_1, y = Var_2)) +
  geom_point() +
  geom_smooth(method = "lm")

rcorr(data$Var_1, data$Var_2)

```

```

      x      y
x 1.0 0.5
y 0.5 1.0

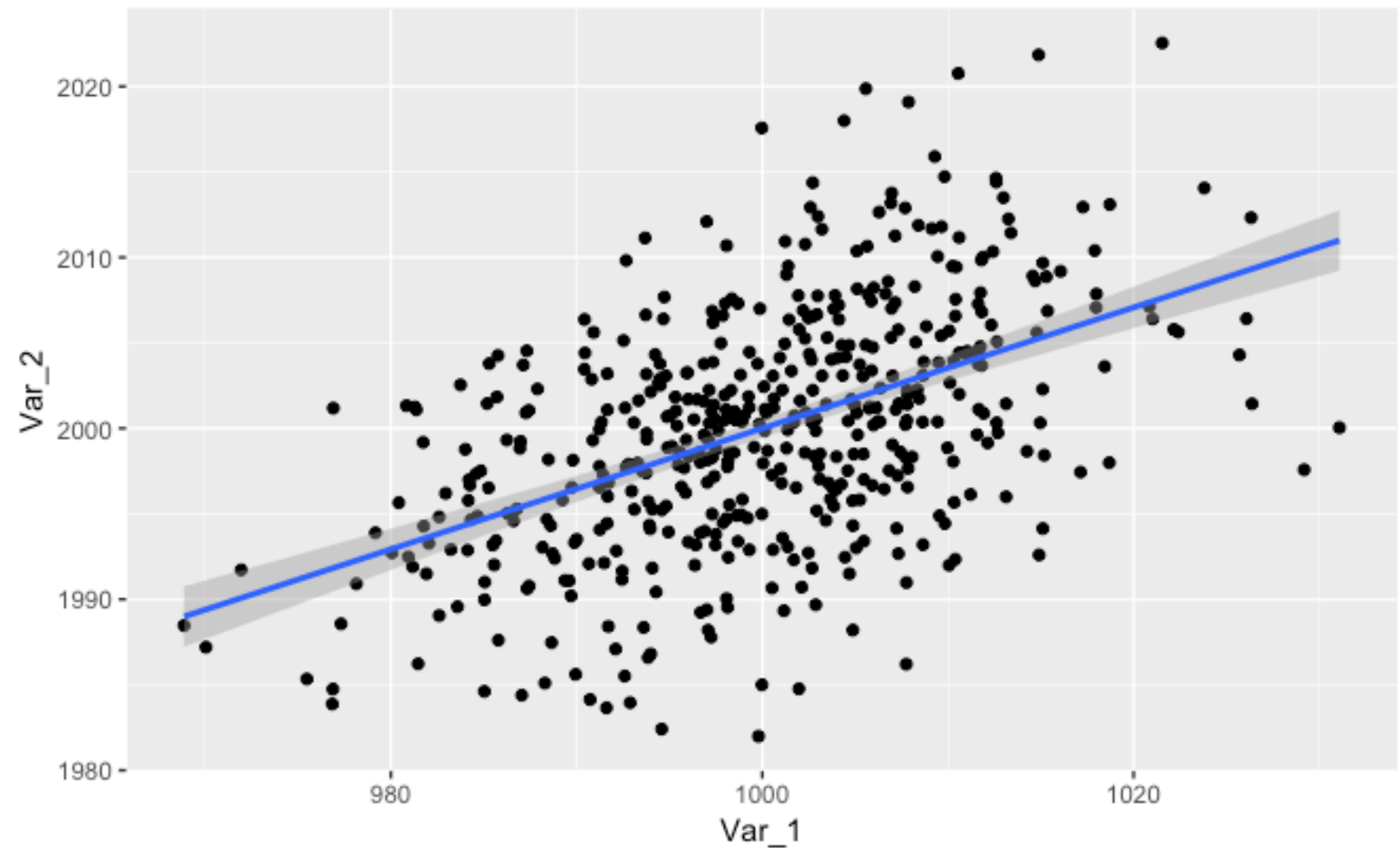
```

n= 500

```

P
  x  y
x  0
y  0

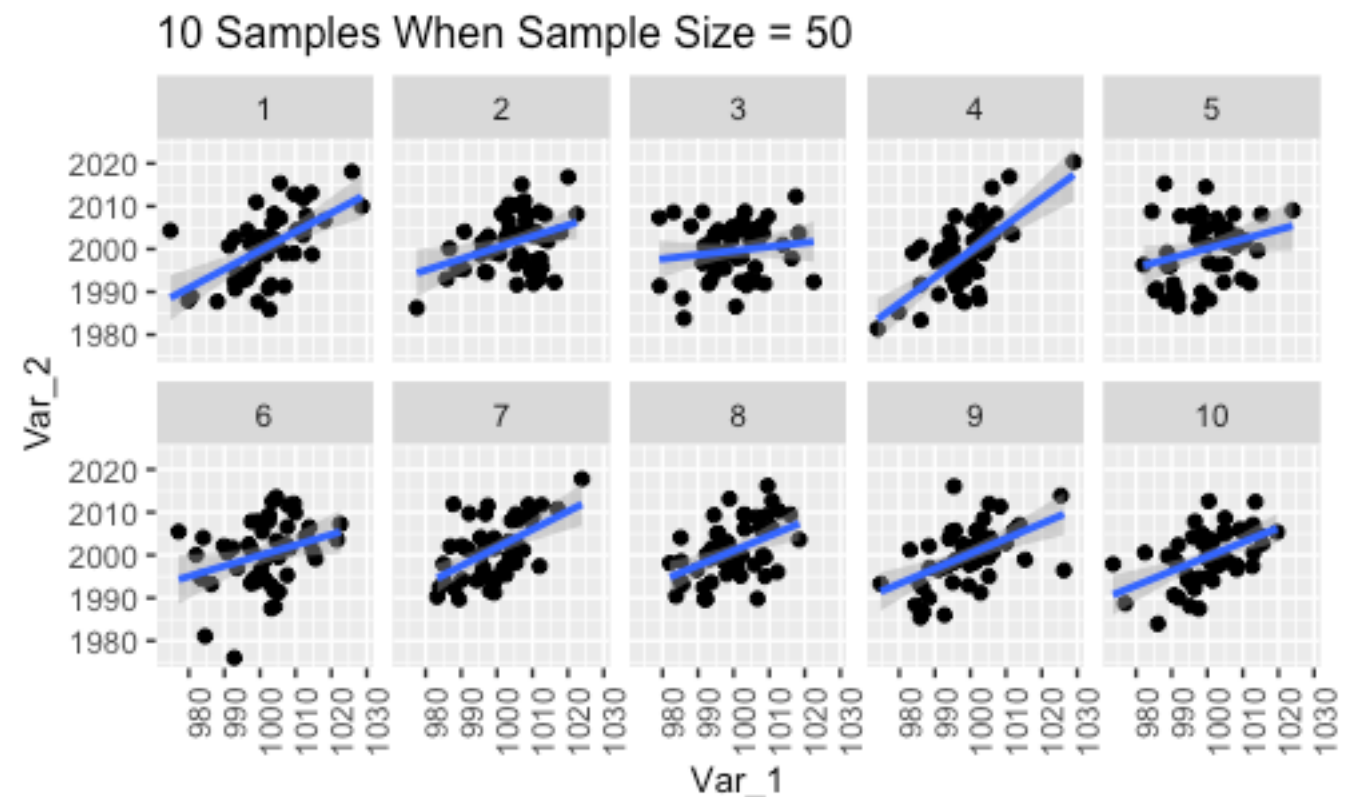
```



10 samples each of $N = 50$

Sample No. Correlation

1	0.574
2	0.363
3	0.141
4	0.676
5	0.266
6	0.308
7	0.542
8	0.461
9	0.512
10	0.515



Even with a sample size of 50, we have quite a range of Pearson r values - ranging from .141 to .676 (and remember Pearson r in the population is = .5)