My trivial analysis

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Generate data

```
set.seed(123)
n         ← 32
x         ← rnorm(n)
y         ← 1 + 2 * x + rnorm(n, 0, 2)
fake.data ← data.frame(x, y) %>% round(2)
head(fake.data) %>% kable
```

x	y
-0.56	1.67
-0.23	2.30
1.56	5.76
0.07	2.52
0.13	2.37
1.72	4.31

Save data to a CSV file in the working directory:

```
write.csv(fake.data, "FakeData.csv", row.names = FALSE)
```

Descriptives

```
describe(fake.data) %>% kable(digits = 2)
```

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
x	1	32	-0.04	0.96	-0.07	-0.06	0.84	-1.97	1.79	3.76	0.12	-0.68	0.17
y	2	32	1.16	2.52	1.49	1.14	3.02	-3.35	6.06	9.41	0.02	-1.04	0.45

Fit regression model

```
lm.res ← lm(y ~ x)
```

Coefficients:

```
summary(lm.res)$coef %>% kable(digits = 2)
```

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	1.23	0.30	4.07	0
x	1.96	0.32	6.08	0

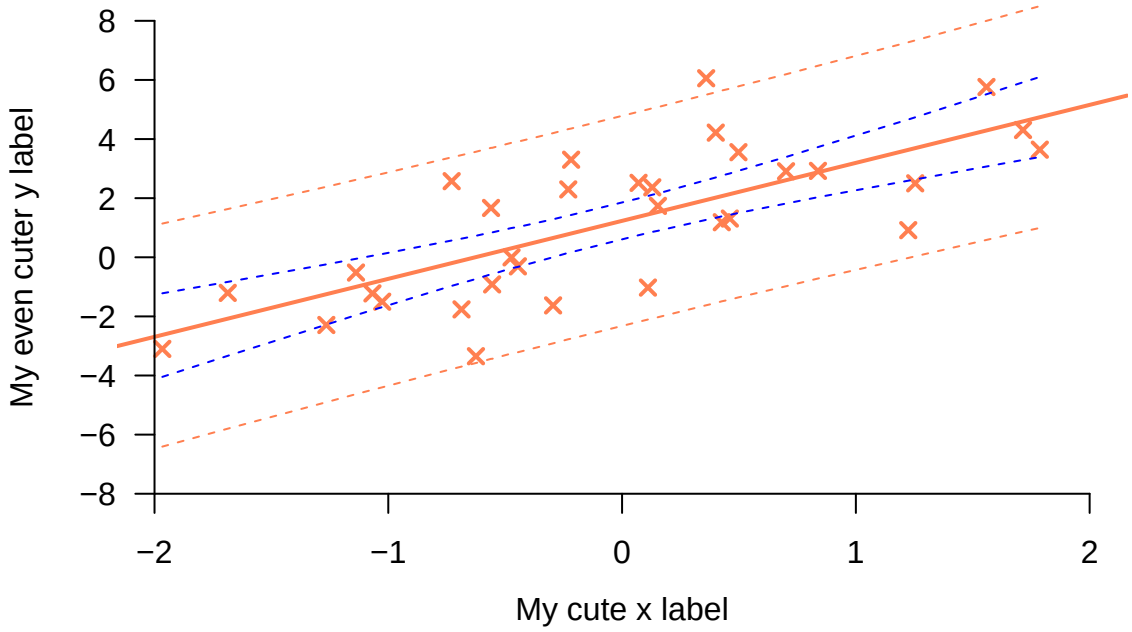
ANOVA table:

```
anova(lm.res) %>% kable(digits = 2)
```

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
x	1	108.54	108.54	36.99	0
Residuals	30	88.03	2.93	NA	NA

Plot:

```
plot(x, y, xlim = c(-2, 2), ylim = c(-8, 8),
     pch = 4, col = "coral", lwd = 2,
     bty = "n", xlab = "", ylab = "", axes = FALSE)
abline(lm.res, col = "coral", lwd = 2)
axis(1, at = seq(-2, 2, 1), pos = -8)
mtext("My cute x label", 1, 2)
axis(2, at = seq(-8, 8, 2), pos = -2, las = 1)
mtext("My even cuter y label", 2, 2)
# Add prediction bands (blue = predicted mean, coral = predicted y value):
conf.mean ← predict(lm.res, newdata = fake.data, interval = "confidence", level = 0.95)
matlines(x[order(x)], conf.mean[order(x), 2:3], col = "blue", lty = 2)
conf.ind  ← predict(lm.res, newdata = fake.data, interval = "prediction", level = 0.95)
matlines(x[order(x)], conf.ind [order(x), 2:3], col = "coral", lty = 2)
```



Conclusion

The effect of x on y is statistically significant. Publish and rejoice.