

## 1. Problem

Consider the following regression results:

Call:

```
lm(formula = y ~ x, data = d)
```

Residuals:

| Min      | 1Q       | Median   | 3Q      | Max     |
|----------|----------|----------|---------|---------|
| -2.14867 | -0.82868 | -0.07472 | 0.66596 | 2.54119 |

Coefficients:

|             | Estimate  | Std. Error | t value | Pr(> t ) |
|-------------|-----------|------------|---------|----------|
| (Intercept) | 0.0001676 | 0.1254992  | 0.001   | 0.999    |
| x           | 1.2492437 | 0.1241613  | 10.061  | 2.04e-14 |

Residual standard error: 0.9786 on 59 degrees of freedom

Multiple R-squared: 0.6318, Adjusted R-squared: 0.6255

F-statistic: 101.2 on 1 and 59 DF, p-value: 2.043e-14

Describe how the response  $y$  depends on the regressor  $x$ .

### Solution

The presented results describe a linear regression.

The mean of the response  $y$  increases with increasing  $x$ .

If  $x$  increases by 1 unit then a change of  $y$  by about 1.25 units can be expected.

Also, the effect of  $x$  is significant at the 5 percent level.