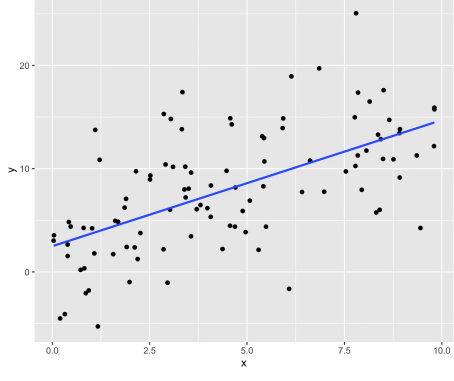
MODELS AND INTERPRETATIONS

1. SIMPLE LINEAR REGRESSION

$$y = \beta_0 + \beta_1 x + u$$

```
> data_linear %>%
+   ggplot(aes(x = x, y = y)) +
+   geom_point() +
+   geom_smooth(method = lm, se = F)
`geom_smooth()` using formula = 'y ~ x'
>
> data_linear %>%
+   lm(y ~ x, data = .) %>%
+   broom::tidy()
# A tibble: 2 × 5
  term        estimate std.error statistic  p.value
  <chr>          <dbl>     <dbl>     <dbl>    <dbl>
1 (Intercept)    2.49      0.873      2.85 5.27e- 3
2 x              1.22      0.163      7.48 3.22e-11
```



$\hat{\beta}_0 = 2.49$: WHEN $X = 0$, Y IS PREDICTED TO BE 2.49.

$\hat{\beta}_1 = 1.22$: WHEN X INCREASES BY ONE UNIT, Y IS EXPECTED TO INCREASE BY 1.22 UNITS.