

# lm() output

Data used here has response variable Y and 3 possible explanatory variables (X1, X2 and X3)

```
model <- lm(Y~X3, data=darwinM)
```

Model run – Y explained by X3

```
> coef(model)
(Intercept)      X3Self
 20.191667     -2.616667
```

$$Y_i = \alpha + \beta X_i + \varepsilon_i$$

# lm() output

The value labelled (Intercept) will always be  $\alpha$ , though we sometimes call it  $\beta_0$ . But this is the same value.

The other numbers will always be the other  $\beta$  values ( $\beta_1+$ ). Whether these represent slopes or differences depends on what kind of data your explanatory variable is (continuous or categorical), so you always need to think about that. A difference is just a slope that only goes from one group to another.

```
> coef(model)
(Intercept)      X3Self
 20.191667     -2.616667
```

$$Y_i = \alpha + \beta X_i + \varepsilon_i$$


# For categorical! A clue that you have a categorical explanatory variable

```
> coef(model)
(Intercept)          X3Self
 20.191667        -2.616667
```

Variable name

Factor level (group name)

$$Y_i = \alpha + \beta X_i + \varepsilon_i$$

A continuous explanatory variable will only show the variable name NOT a group name after