

$$\text{Ability} = \text{Intercept} + \beta_1(\text{Double Espresso}) + \beta_2(\text{Single Espresso}) + \varepsilon$$

We want to calculate  $\beta_1$  and  $\beta_2$

```
> lm1 <- lm(Ability ~ Condition, data = cond)
> lm1
```

Call:

```
lm(formula = Ability ~ Condition, data = cond)
```

Coefficients:

(Intercept)	ConditionDouble Espresso	ConditionSingle Espresso
4.817	4.199	1.871

The intercept is 4.817 (which is the mean of our Water group),  $\beta_1$  is 4.2, and  $\beta_2$  is 1.87

# To work out the mean Ability of our Double Espresso Group:

$$\text{Ability} = \text{Intercept} + \beta_1(\text{Double Espresso}) + \beta_2(\text{Single Espresso}) + \varepsilon$$

$$\text{Ability} = 4.82 + 4.2(1) + 1.87(0) + \varepsilon$$

$$\text{Ability} = 4.82 + 4.2 + \varepsilon$$

$$\text{Ability} = 9.02 + \varepsilon$$