

```
n <- 1e3
a <- rnorm(n,0,10)
b <- runif(n,0,1)
plot( NULL , xlim=c(130,170) , ylim=c(50,90) ,
      xlab="height (cm)" , ylab="weight (kg)" )
for ( j in 1:50 ) abline( a=a[j] , b=b[j] , lwd=2 , col=2 )
```

$$W_i \sim \text{Normal}(\mu_i, \sigma)$$

$$\mu_i = \alpha + \beta H_i$$

$$\alpha \sim \text{Normal}(0, 10)$$

$$\beta \sim \text{Uniform}(0, 1)$$

$$\sigma \sim \text{Uniform}(0, 10)$$