

Generate $2 \times n \times p = 400$ iid $N(0,1)$ samples, re-arrange them to be a 200-by-2 matrix; scale them by sd outside to make them like samples from $N(0, s^2)$

```
m1 = c(1, 0);  
m0 = c(0, 1);  
n = 100; p = 2;  
traindata = matrix( rnorm(2*n*p), 2*n, p)*s +  
  rbind( matrix(rep(m1, n), nrow = n, byrow=TRUE),  
    matrix(rep(m0, n), nrow = n, byrow=TRUE)  
    matrix(rep(m0, n), nrow = n, byrow=TRUE) )
```

Repeat m1, a 2-by-1 row vector, 100 times to form a 100-by-2 matrix

Repeat m0, a 2-by-1 row vector, 100 times to form a 100-by-2 matrix

Row bind the two matrices to form a 200-by-2 matrix, so the first 100 rows of the train data are generated from normal with mean m1 and the remaining 100 rows are from normal with mean m0.