Your job is to implement the functions `lms`, and `mse` in Matlab. The functions are to have the following arguments and results

```
function w = lms(w, x, d, eta)
```

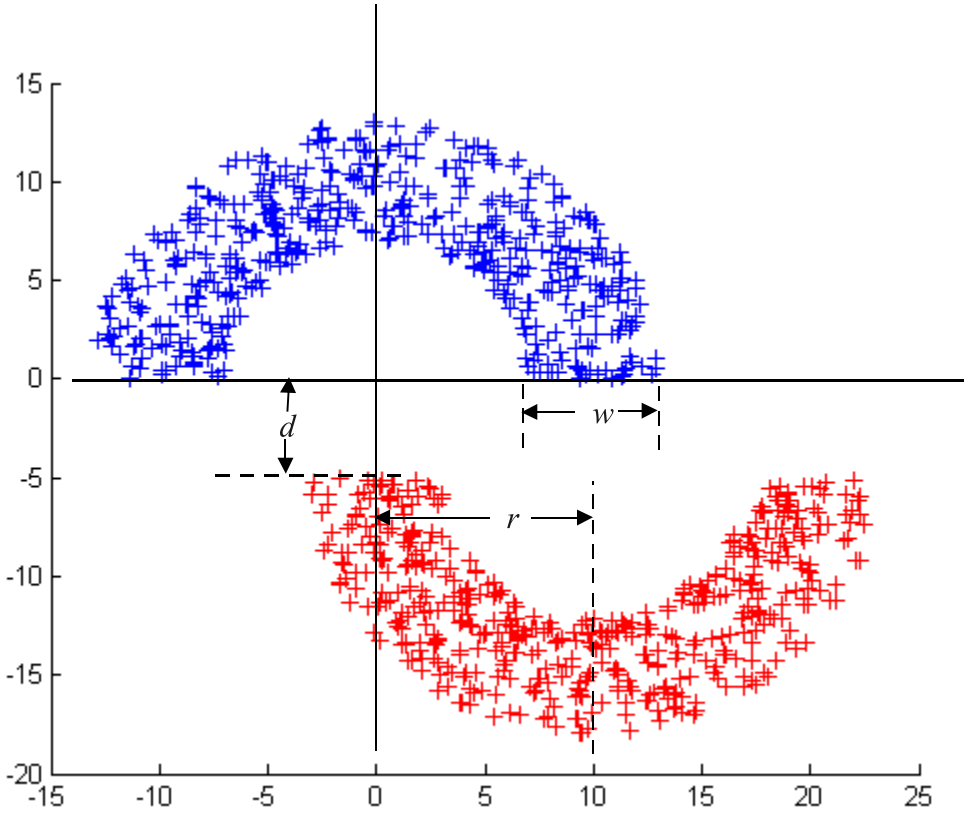
where

- Input `w` is a column vector containing *m* initial weights,
- output `w` is a column vector containing *m* adjusted weights,
- `x` is a column vector containing *m* sample input element values.
- `d` is a scalar value, namely the desired output value associated with input `x`,
- `eta` is a learning rate value, and

```
function w = mse(X, d, lambda)
```

where

- Input `X` is an *N*X*m* array each of whose rows is a sample input vector,
- `d` is a column vector of length *n* containing the desired outputs associated with the corresponding row inputs in `X`, and
- `lambda` is the diagonal loading factor, and
- output `w` is a column vector containing the *m* weights calculated by the best mean-square error fit.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