Implement the latent Dirichlet allocation (LDA) model to generate a document from a given set of parameters. Build a function `lda()` that takes four arguments:

1. `vocabulary` - list (of length V) of strings

2. `phi` - numpy array of size (k, V)

3. `theta` - numpy array of size (M, k)

4. `N` - integer

and returns:

1. `w` - list (of length M) of lists (of length N) of strings

Put your function in a file titled `hw10_solution.py`.

Run `hw10_evaluate.py`, making sure that your solution file is on the Python path. If you're unsure whether the result is satisfactory, ask the instructor or TA.