

MATLAB EXERCISE 1.38 **Total charge, based on the MoM analysis.** Write a function `totalCharge()` in MATLAB that takes as input an array of surfaces of small patches ΔS_i and an array of associated surface charge densities ρ_{si} , $i = 1, 2, \dots, N$, obtained by the MoM analysis, and finds, in postprocessing, the total charge Q of the body using Eq.(1.62). More precisely, Q is obtained by matrix multiplication of a row matrix of surfaces of patches, \mathbf{S} , and a column matrix of charge-distribution coefficients, \mathbf{rhos} . (*totalCharge.m on IR*)

SOLUTION:

```
%  
% Book: MATLAB-Based Electromagnetics (Pearson Prentice Hall)  
% Author: Branislav M. Notaros  
% Instructor Resources  
% (c) 2011  
%  
% This MATLAB code or any part of it may be used only for  
% educational purposes associated with the book  
%  
%  
%
```

```
% Total charge, based on the MoM analysis
```

```
function Qtot = totalCharge(S,rhos)  
Qtot = S * rhos;
```