

PHYSICAL MODELING IN MATLAB

EXERCISE 3.3

Write a script, called *sequence*, that computes the elements of the sequence given by $A_{i+1} = A_i/2$ directly versus recursively. The i^{th} element of the sequence can be computed directly using $A_i = A_1 r^{i-1}$, where $A_1 = 1$ and $r = 0.5$.

The MATLAB script *sequence* contains:

```
% Exercise 3.3 - script sequence
%
% This script will compute the elements of the sequence directly
% versus recursively.
%
% To compute the ith element of the sequence use A1*(r^(i-1))
%
for i = 2:10
    A = A1 * r^(i-1)
end
```

To run:

```
% initialize A1 and r
A1 = 1;
r = 0.5;
% call the script to compute the sequence directly
sequence;
% The displayed values of A reflect the elements of the sequence
```