
```

function [matrix] = InterestingMatrix (R, C)
%Interesting Matrix
%This program returns an R x C matrix in which
%1. The value of each element in the first row is the number of the
    column
%2. The value of each element in the first column is the number of the
    row.
%3. The rest of the elements each has a value equal to the sum of the
    element above it and element to the left.
%4. The function must return a sensible error if the user does not
    input exactly two arguments
%
%Input:
%   R = number of rows
%   C = number of columns
%Output:
%   Matrix out = the interesting matrix that fulfills the criteria
    above
%
%Program created by Jason Sayre on 1/30/18
R = input('How many rows are desired? ') %user input
C = input('How many columns are desired? ')
matrix = [ ]; %initialized blank matrix
for Ro = 1:R %loops up to value R
    for Co = 1:C %loops up to value C
        if Ro == 1
            matrix(Ro,Co) = Co;%when row =1, places the column number
            in that first row
        else if Co == 1
            matrix(Ro,Co) = Ro; %when column =1, places the row
            number in that column
        else
            matrix(Ro,Co) = matrix(Ro-1,Co) +
            matrix(Ro,Co-1) %adds row above and column to the left, places in new
            matrix location
        end
    end
end
end
end

```

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