0.1 SIMPLE QUESTIONS
1. Give me a set of \( n \) vectors whose 1-norm, \( \infty \)-norm, and 2-norms are all the same.

2. Does the Neumann series converge for the matrix

\[
\begin{bmatrix}
1 & 1 \\
0 & 1
\end{bmatrix}
\]

3. Is this a matrix?

\[
\begin{bmatrix}
0 & 0 & 0 & 0 & 0 & 0 \\
0 & 1 & 0 & 0 & 1 & 0 \\
0 & 1 & 0 & 0 & 1 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 \\
0 & 1 & 1 & 1 & 1 & 0 \\
0 & 0 & 0 & 0 & 0 & 0
\end{bmatrix}
\]

Give a discussion about different possible answers.

0.2 FUN QUESTIONS
4. What does this Julia code do? Describe as much detail or as many interpretations as possible.

```julia
function myf(n::Int)
    A = zeros(n,n)
    for i=1:n
        for j=max(1,i-1):min(i+1,n)
            A[i,j] = 1/2
        end
    end
    M = I-A
    b = ones(n)
    b[1] = 0
    b[end] = 0
    return maximum(M\b)
end
```