

PROBLEM:

A linear time-invariant system (FIR Filter) is described by the difference equation: $y[n] = \sum_{k=0}^{\infty} x[n-k]$

$$x[n] = e^{j\pi n} \qquad 0 < n < 5$$

- (a) Make a plot of x[n] vs. n.
- (b) Compute y[n], over the a range of n that includes all of its non-zero values.

The input to this system is a *finite-length* complex exponential signal:

McClellan, Schafer and Yoder, Signal Processing First, ISBN 0-13-065562-7. Prentice Hall, Upper Saddle River, NJ 07458. © 2003 Pearson Education, Inc.