



## PROBLEM:

A linear time-invariant system (FIR Filter) is described by the difference equation:  $y[n] = \sum_{k=0}^3 x[n - k]$

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

$$x[n] = e^{j\pi n} \quad 0 \leq n \leq 5$$

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