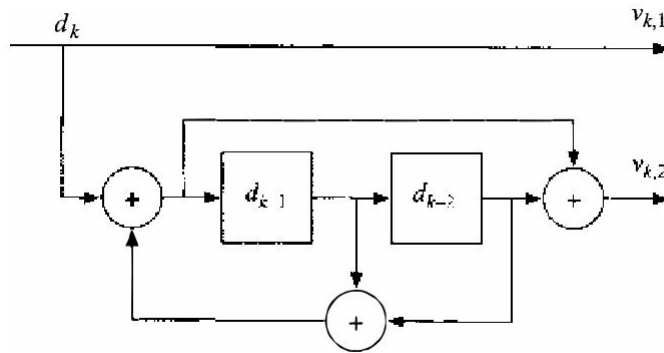


## Assignment 2

A systematic recursive convolutional encoder (Fig.1) (rate 1/2) generates a code. The encoder has feedback branches and the state is defined as  $(d_{k-1}, d_{k-2})$ . The objective is to:

- Illustrate the state transition diagram.
- Find the corresponding trellis diagram.
- For an input data sequence of 0100110100, determine the corresponding codeword.

**Implement in MATLAB**



① For Maximum Likelihood detection ,perform the viterbi decoding for following in MATLAB .

