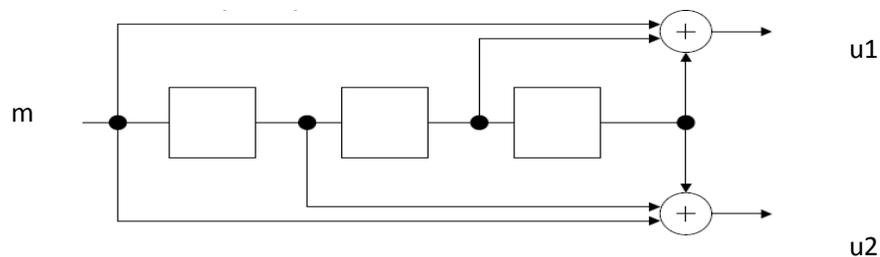


- Q5** a) Derive the expression for entropy or average information of a source. What does it signify for a source that is emitting symbols. (5)
- b) A discrete source transmits 7 symbols with respective symbol probabilities of $1/4, 1/4, 1/8, 1/8, 1/12, 1/12$ and $1/12$. (5)
- (i) Construct the Huffman code for this particular source.
- (ii) Calculate the average length & efficiency for the obtained code
- Q6** a) Explain about the different types of representations of Convolutional encoders. (5)
- b) For the following shown convolutional encoder, find out the final code-word for an input sequence 11011. (5)
- (i) m – input sequence
- (ii) u_1, u_2 – first and second branch-words respectively.



- Q7** Explain in detail about Linear Block Codes. (10)
- Q8** Write short answer on any TWO : (5 x 2)
- a) Entropy of a source.
- b) Minimum distance of codes.
- c) Stop & Wait ARQ scheme.
- d) Lempel Ziv source coding algorithm