



# AVERAGE INFORMATION, ENTROPY AND INFORMATION RATE

- Information is the source of a communication system, whether it is analog or digital. **Information theory** is a mathematical approach to the study of coding of information along with the quantification, storage, and communication of information.
- $p_i$  is the probability of the occurrence of character number  $i$  from a given stream of characters and  $b$  is the base of the algorithm used. Hence, this is also called as **Shannon's Entropy**.
- Information Rate : A formula for measuring the amount of information received by multiplying the amount of information content for each character by the number of characters that are being transmitted every second.