Section - 10 Answer - 3

* Lossless Compression ⇒

↳ In lossless compression, the redundant information contained in the data is removed.

↳ Due to removal of ~~out~~ such information, there is no loss of the data of interest. Hence it is called as lossless compression.

↳ Lossless compression is also known as data compaction.

↳ Lossless compression technique, as their name implies, involve no loss of information.

↳ If data have been losslessly compresed, the original data can be recovered exactly from the compressed data.

↳ Text compression is an important area for lossless compression.

* Lossy Compression ⇒

↳ Lossy compression technique involve some loss of information, and data that have been compressed using lossy techniques generally be recovered or reconstructed exactly.

↳ In this types of compression, there is a loss of information in a controlled manner.

↳ The lossy compression is therefore not completely reversible.

↳ But the advantages of this type is higher compression ratios than the lossless compression.

↳ The lossless compression is used for the digital data.

↳ For many applications, the lossy compression is preferred due to its higher compression without a significant loss of important information.

↳ For digital Audio and video applications, we need a standard compression algorithm.

* Applications where lossy compression is necessary for data compression →

↳ Lossy image compression can be used in digital cameras, to increase storage capacities with minimal degradation of picture quality.

↳ In lossy audio compression, methods of psychoacoustics are used to remove non-audible (or less audible) components of the audio signal.

* Measures of performance of data compression →

↳ A compression algorithm can be evaluated in a number of different ways.

↳ Another way of reporting compression performance is to provide the average number of bits required to represent a ~~signo~~ single sample.

↳ This is generally referred to as the rate.

↳ In lossy compression, the reconstruction differs from the original data.