



# **SNS COLLEGE OF ENGINEERING**

Kurumbapalayam (Po), Coimbatore – 641 107

**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A’ Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**COURSE NAME : 19EC513 – IMAGE PROCESSING AND COMPUTER  
VISION**

**III YEAR / V SEMESTER**

**Unit III- IMAGE COMPRESSION AND IMAGE SEGMENTATION**

**Topic : Run length coding**



## Run length coding



- Images with repeating intensities along their rows (or columns) can often be compressed by representing runs of identical intensities as run-length pairs, where each run-length pair specifies the start of a new intensity and the number of consecutive pixels that have that intensity.
- The technique, referred to as run-length encoding (RLE), was developed in the 1950s and became, along with its 2-D extensions, the standard compression approach in facsimile (FAX) coding. Compression is achieved by eliminating a simple form of spatial redundancy—groups of identical intensities. When there are few (or no) runs of identical pixels, run-length encoding results in data expansion.

Run-length encoding is particularly effective when compressing binary images. Because there are only two possible intensities (black and white), adjacent pixels are more likely to be identical. In addition, each image row can be represented by a sequence of lengths only—rather than length-intensity pairs as was used in Example 8.8.

The basic idea is to code each contiguous group (i.e., run) of 0s or 1s encountered in a left to right scan of a row by its length and to establish a convention for determining the value of the run. The most common conventions are (1) to specify the value of the first run of each row, or (2) to assume that each row begins with a white run, whose run length may in fact be zero.

Second Byte Value	Condition
0	End of line
1	End of image
2	Move to a new position
3–255	Specify pixels individually



THANK YOU !!!