1. **What is the signal? Or Define the Signal?**

**Answer**: Signal processing is a discipline in electrical engineering and in mathematics that deals with analysis and processing of analog and digital signals, and deals with storing, filtering, and other operations on signals. These signals include transmission signals, sound or voice signals, image signals, and other signals etc.

1. **What is the Image Processing? Or Define the Image Processing?**

**Answer:** The field that deals with the type of signals for which the input is an image and the output is also an image is done in image processing. As it name suggests, it deals with the processing on images.

It can be further divided into analog image processing and digital image processing.

**Analog image processing:** Analog image processing is done on analog signals. It includes processing on two dimensional analog signals. In this type of processing, the images are manipulated by electrical means by varying the electrical signal. The common example include is the television image.

**Digital image processing:** The digital image processing deals with developing a digital system that performs operations on a digital image.

1. **What is an Image?**

**Answer:** An image is nothing more than a two dimensional signal. It is defined by the mathematical function f(x, y) where x and y are the two co-ordinates horizontally and vertically.

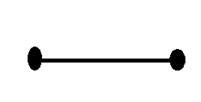
The value of f(x, y) at any point is gives the pixel value at that point of an image.

1. **Define 2 Dimensions Signal?**

**Answer:**

**1 dimension signal**

The common example of a 1 dimension signal is a waveform. It can be mathematically represented as F(x) = waveform Where x is an independent variable. Since it is a one dimension signal, so that's why there is only one variable x is used.

Pictorial representation of a one dimensional signal is given below:

The above figure shows a one dimensional signal.

**2 dimensions signal**

The common example of a two dimensional signal is an image , which has already been discussed above.

As we have already seen that an image is two dimensional signal, i-e: it has two dimensions. It can be mathematically represented as:

F (x , y) = Image

Where x and y are two variables.