**Depth Image and Kinect Camera**

**Understanding Depth in Depth Images**:

A typical color image using 8 bits per channel is often referred to as a 24-bit color image (8 bits x 3 channels). Color scanners and digital cameras typically produce 24 bit (8 bits x 3 channels) images or 36 bit (12 bits x 3 channels) capture, and high-end devices can produce 48 bit (16 bit x 3 channels) images. A grayscale scanner would generally be 1 bit for monochrome or 8 bit for grayscale (producing 256 shades of gray). Bit depth is also referred to as color depth.

However depth of field (DOF) is defined as the distance between the nearest and farthest objects in the frame. In order to have the entire image sharp, a large DOF is recommended. In other cases, a small DOF may be useful, focusing the subject while de-emphasizing the other elements of back or foreground. In cinematography, the first case is referred to  deep focus, and the later one is called shallow focus.

**Kinect Camera:**

Kinect camera is a Microsoft device which we will mainly use for getting the depth information and process it further for getting the cordinates of the person.

Kinect essentially consists of 3 main parts namely RGB camera , IR Emitter and IR collector. When the IR emitter emits light on the person , the IR collector processes and gives the depth information.

With the help of depth information, we can get the skeleton information and a lot more other things can be done with the help of kinect camera.