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ASSIGNMENT IOT 2

1. What is an Encoding format List down encoding formats for various types of data ( Text, Number, Photo, Audio, Video).

Ans: *The process of conversion of data from one form to another form is known as Encoding.* It is used to transform the data so that data can be supported and used by different systems.

Here's a list of common encoding formats for various data types:

1. **Text:**
   * **ASCII (American Standard Code for Information Interchange):** A character encoding standard for electronic communication, representing text in computers.
   * **UTF-8 (8-bit Unicode Transformation Format):** A variable-width character encoding used for electronic communication, capable of encoding all possible characters (code points) in Unicode.
   * **UTF-16 and UTF-32:** Other Unicode encoding formats that use 16 and 32 bits respectively.
2. **Numbers:**
   * **IEEE 754:** A standard for floating-point arithmetic used in computers, defining formats for representing floating-point numbers.
3. **Photos/Images:**
   * **JPEG (Joint Photographic Experts Group):** A commonly used method of lossy compression for digital images.
   * **PNG (Portable Network Graphics):** A raster-graphics file-format that supports lossless data compression.
   * **GIF (Graphics Interchange Format):** Supports both static and animated images.
   * **BMP (Bitmap Image File):** A raster graphics image file format used to store bitmap digital images.
4. **Audio:**
   * **MP3 (MPEG-1 Audio Layer III):** A coding format for digital audio, known for its lossy compression.
   * **WAV (Waveform Audio File Format):** An audio file format standard for storing an audio bitstream on PCs.
   * **FLAC (Free Lossless Audio Codec):** An audio coding format for lossless compression of digital audio.
   * **AAC (Advanced Audio Coding):** A standardized, lossy compression and encoding scheme for digital audio.
5. **Video:**
   * **MP4 (MPEG-4 Part 14):** A digital multimedia container format most commonly used to store video and audio.
   * **AVI (Audio Video Interleave):** A multimedia container format introduced by Microsoft.
   * **MKV (Matroska Video):** An open standard, free container format that can hold an unlimited number of video, audio, picture, or subtitle tracks.
   * **MOV:** A multimedia container file format developed by Apple.