**Video Encoding and Decoding Script**

This Python script provides functionality for encoding and decoding video files using a reversible XOR transformation. The script utilizes the FFmpeg library for video compression during the encoding process.

**- Usage**

- 1. **`xor\_transform` Function**

- 2. **`compress\_video` Function**

- 3. **`encode\_video` Function**

- 4. **`decode\_video` Function**

**Requirements**

- Python 3.x

- FFmpeg

**Installation**

1. Install Python 3.x from [https://www.python.org/downloads/](https://www.python.org/downloads/).

2. Install FFmpeg from [https://ffmpeg.org/download.html](https://ffmpeg.org/download.html).

**Usage**

**1. xor\_transform Function**

The `xor\_transform` function performs a bitwise XOR operation on each byte of the input data with a specified key, resulting in a transformed byte sequence.

**2. compress\_video Function**

The compress\_video function uses FFmpeg to compress a given input video file. The compressed video is saved as compressed.mp4.

**3. encode\_video Function**

The encode\_video function integrates the `compress\_video` function to compress the input video and then applies the `xor\_transform` function to encode the video with a specified encoding key. The encoded video is saved with the provided output file name.

**4. decode\_video Function**

The decode\_video function reads the encoded video file, applies the reverse XOR transformation using the specified decoding key, and saves the decoded video with the provided output file name.