Description

Objective :Develop a Node.js application using Fastify and FFmpeg that allows users to upload a video, trim it to a specified duration, and resize it to given dimensions.

Requirements:

1. **API Endpoint**: Create a Fastify server with an endpoint to upload a video file.
2. **Video Trimming**: Implement functionality to trim the video based on provided start and end times.
3. **Video Resizing**: Implement functionality to resize the video to specified dimensions.
4. **Error Handling**: Ensure robust error handling, especially for file uploads and FFmpeg processing.
5. **Response**: After processing, the server should return a message indicating success or failure.

Steps:

1. Set up a Fastify server and an endpoint for video file uploads.
2. Parse the request to extract the video file, start and end times for trimming, and dimensions for resizing.
3. Use FFmpeg to trim and resize the video. you are free to use whatever approach you deem appropriate
4. Implement error handling an`d validation for input parameters.

Bonus Tasks:

1. **Video Splitting**: Extend the service to split the video into audio codec (aac , opus) and video codecs(h264,vp9,av1)
2. **Video Reassembly**: Create functionality to reassemble video segments into a single file based on client parameters, possibly including different combinations of audio and video codecs.
3. **Client-Parameter Based Serving**: Develop a system to serve different versions of the processed video based on client specifications (e.g., codec preferences, resolution).

Additional Considerations:

- **Concurrency**: Plan for scaling the service if it needs to handle multiple simultaneous requests.
- **Storage**: Determine how and where to store the original and processed videos.