The whole process of using aws rekognition to analyse stream contain 3 steps:

1. Send data to aws kinesis video stream
2. Run amazon rekognition on the streamed video and send the result to data stream
3. Read the output from aws data stream

Send data to aws video stream:
The live video will be send to aws kinesis video stream through GStreamer.

Install aws sdk for c++:
As GStreamer is contained in aws sdk for c++, it is necessary to install aws sdk for c++ first.
The instructions are posted in this link:
https://docs.aws.amazon.com/sdk-for-cpp/v1/developer-guide/setup.html

Install GStreamer:
All the install and running instructions are included in the “Build and install Kinesis Video Streams Producer SDK and sample applications” part of the download links.md.

Run amazon rekognition:
Install aws command line interface(CLI):
All the steps in this section will run through cli. See more detail for aws cli here:
https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-welcome.html
AWS CLI can be installed through pip:

```
pip3 install awscli --upgrade --user
```

Upload face into S3 buckets:
Use the following link to upload photo to S3 bucket, there should be a bucket have name “face-rekogniztio”
https://docs.aws.amazon.com/AmazonS3/latest/user-guide/download-objects.html

Index face:
Add the face you want to identify in the created collection.
Type the following command into the terminal, change the file-name to the name of the photo you uploaded into the S3 bucket.

```
aws rekognition index-faces \
      --image '{"S3Object":{"Bucket":"face-rekogniztio","Name":"file-name"}}'
\
      --collection-id "face_rekognition" \
      --max-faces 1 \
      --quality-filter "AUTO" \
      --detection-attributes "ALL" \
      --external-image-id "example-image.jpg"
```

Stream processor:

Stream processor is the application which read data from aws kinesis video stream, run amazon face rekognition and send the result to aws kinesis data stream.
The parameter used to start the processor is included in the json file start_stream.json.
You can use the following terminal command to start the created stream processor.
aws rekognition start-stream-processor --cli-input-json <path to start_stream.json>
You can stop the stream processor through:
aws rekognition stop-stream-processor --cli-input-json <path to start_stream.json>

Read data from aws kinesis data stream:
After the GStreamer and stream processor are both started, run face_rekognition.py