Write me a set of python functions for a jiu-jitsu analysis and coaching app. I want the following top level functions, using the helper functions I have included in the genai.py, chatgpt.py, and movieai.py files. The top level functions I want are:

1. A function called “generate\_grappling\_plan”: I want to send the function: a still frame image of a grappling match; provide a variable for whether the image is to recognize the top jiu-jitsu player, the bottom jiu-jitsu player, or both players called “player\_variable”; an optional variable for whether or not this is an MMA or Jiu-jitsu match called “isMMA”; and an optional variable for some keywords to prime the ai on what to look for.
   1. Then I want call genai.generate\_image\_description and pass it the image, and the following prompt: “the image is a still frame from a grappling match. The match has <<isMMA>> rules. I want you to analyze: <<player\_variable>>, and provide three options for the next immediate steps towards grappling moves that would work best for them given their current position. I want these steps to be listed in quick bullet format like ex: “1) <<step>> : towards <<move>>, 2) …” Base the recommendations on historical MMA and Jiu-jitsu match performance. I want you to also take special note of the following keywords for your image and recommendation analysis: <<keywords>>”
   2. I then want to return the text of the response as the overall function return
2. A function called “analyse\_grappling\_match”: I want to send the function: a video of a grappling match; provide a variable for whether the image is to recognize the top jiu-jitsu player, the bottom jiu-jitsu player, or both players called “player\_variable”; an optional variable for whether or not this is an MMA or Jiu-jitsu match called “isMMA”; an optional variable for some keywords to prime the ai on what to look for, a variable called “start\_time”, and a variable called “end\_time”.
   1. If provided a start\_time and an end\_time, I want to generate a subset of the video provided which contains only the part of the video between the start and end times.
   2. Then I want to call the Genai.generate\_video\_description function subset of the video just created if present, or the original video if there was no subset generated. I will call the function with the following prompt: “these images are frames from from a grappling match. The match has <<isMMA>> rules. I want you to analyze: <<player\_variable>>, and provide an analysis of what went right or wrong during the match, along with some recommendations for the <player\_variable> in their next match” I want these recommendations to be listed in a quick summary format. Base the recommendations on the athlete’s body type, jiu-jitsu guard situation, and historical MMA and Jiu-jitsu match performance. I want you to also take special note of the following keywords for your analysis: <<keywords>>”
3. A function called “generate\_flow\_chart”: I want to send the function: a text description of the physical attributes of the athlete called “measurables”; a variable for whether the image is to be from top jiu-jitsu position, bottom jiu-jitsu position, or both positions “position\_variable” (where the default is both positions); an optional variable for whether or not this is an MMA or Jiu-jitsu match called “isMMA” (default is yes); and an optional variable for some keywords to prime the ai on what to come up with for called “favorite\_ideas”
   1. Then I want to call Genai.generate\_image with the following prompt: “I want you to generate a visual flow chart of jiu-jitsu moves that will have the greatest likelihood of success for an athlete with the following measurables: <measurables>. I want this chart to focus on <position\_variable> under the <isMMA> ruleset, and take into account that the athlete has the following ideas: <favorite\_ideas> of the athlete.
4. A function called “gracie\_talk”: I want to pass the function a text variable for the name of a Gracie to speak with called “gracie\_name”, a text variable called “chat\_history” which contains the history of the chat, and a text variable called “user\_messaage” which contains the next prompt in the conversation. Using these inputs, I want to call Genai.generate\_chat\_response with the <chat\_history>, the <user\_message>, and the following prompt: “you are the famous martial arts practitioner <gracie\_name>. I want you to have a conversation with the user based on that information, and have the conversation focused around improving the user’s grappling and self-defense. I want the conversation to always have an upbeat and motivational conversational style.”
5. I also want a function called “get\_attributes”: I want to send the function: a still frame image of a grappling match; provide a variable for whether the image is to recognize the top jiu-jitsu player, the bottom jiu-jitsu player, or both players called “player\_variable”; it then calls genai.generate\_image\_description to ask the ai what the height and weight of the athlete in a particular position is?

Useful helper functions

Genai.generate\_text (needs prompt + possibly instance instructions)

Genai.generate\_chat\_response (chat\_history and user\_message)

Genai.generate\_image(prompt)

Genai.encode\_image(file)

Genai.generate\_image\_description(image, instructions)

Genai.extract\_frames (video, max samples)

Genai.generate\_video\_description(vide, max samples, instructions)