

Question 2

Below is the function that I wrote in order to convert the text to speech using VoiceRSS API. This function would take 3 inputs: the path of quarto file, speaking language code, and the sample rate (audio format) that both can be viewed [here](#). For the evaluation, I would like to use English as standard language, and 44khz_16bit_stereo as this is compatible to listen in Apple iOS environment.

```
convert_quarto_to_audio <- function(quarto_file_path, language, sample_rate) {  
  # Load required libraries  
  library(httr)  
  
  # Read Quarto file  
  quarto_content <- readLines(quarto_file_path)  
  
  # Concatenate all lines of the Quarto file into a single string  
  quarto_text <- paste(quarto_content, collapse = "\n")  
  quarto_text <- gsub("#", "", quarto_text)  
  
  # Call Text-to-Speech API  
  endpoint <- "http://api.voicerss.org/"  
  params <- list(key = api_key, src = quarto_text, hl = language, c = "MP3", f = sample_rate)  
  response <- POST(endpoint, body = params)  
  
  # Check for errors in API response  
  if (http_error(response)) {  
    stop("Error:", content(response, "text"))  
  }  
  
  # Generate output filename based on input filename  
  input_filename <- basename(quarto_file_path)  
  output_filename <- gsub("\\.qmd$", ".mp3", input_filename) # Replace .qmd extension with .mp3  
  
  # Save audio file  
  output_path <- file.path("~/Documents/GSoC'24", output_filename)  
  writeBin(content(response, "raw"), output_path)  
  cat("Audio file saved:", output_path, "\n")  
}
```