Software Project

AI1110: Probability and Random Variables
Indian Institute of Techonology Hyderabad

Yasir Usmani*
AI22BTECH11031

Introduction

The goal of this project is to create a program that plays a random selection of songs from a folder using the Pygame library. The program allows the user to skip to the next song by pressing a key.

Libraries

The code utilizes the following libraries:

- `pygame`: Provides functionality for multimedia applications such as playing audio.
- `numpy`: Used for generating random numbers.

Function: `song_list()`

The `song_list()` function performs the following steps:

1) Initializes an empty list to store the played songs.
2) Initializes the Pygame mixer module for audio playback.
3) Enters a loop to select and play random songs.
4) Generates a random number to represent the index of an MP3 file.
5) Checks if the generated number has already been played.
6) Loads and plays the selected MP3 file.
7) Enters a nested loop to wait for the song to finish playing.
8) Prompts the user to press 's' to skip to the next song.
9) If the user presses 's', stops the current song and breaks out of the loop.
10) Prompts the user to press 'q' to quit the current playlist and start over again.
11) If the user presses 'q', stops the current song and the main function calls the song_list() function again.

Main Loop

The `song_list()` function is called in a loop infinetely many times, creating a playlist of random songs.

Project Evaluation

The code successfully creates a random song playlist by selecting and playing MP3 files from a specified folder. The user has the option to skip to the next song by pressing 's'. The program utilizes the Pygame library for audio playback and the NumPy library for generating random numbers.

*The student is with the Department of Artificial Intelligence, Indian Institute of Technology, Hyderabad, 502285, India.
e-mail: ai22btech11031@iith.ac.in.

Future Improvements

There are several potential improvements for this project:

- Add functionality to pause and resume the currently playing song.
- Implement error handling for incorrect user input.
- Allow the user to specify the number of songs in the playlist.
- Enhance the user interface with a graphical interface or command-line options.

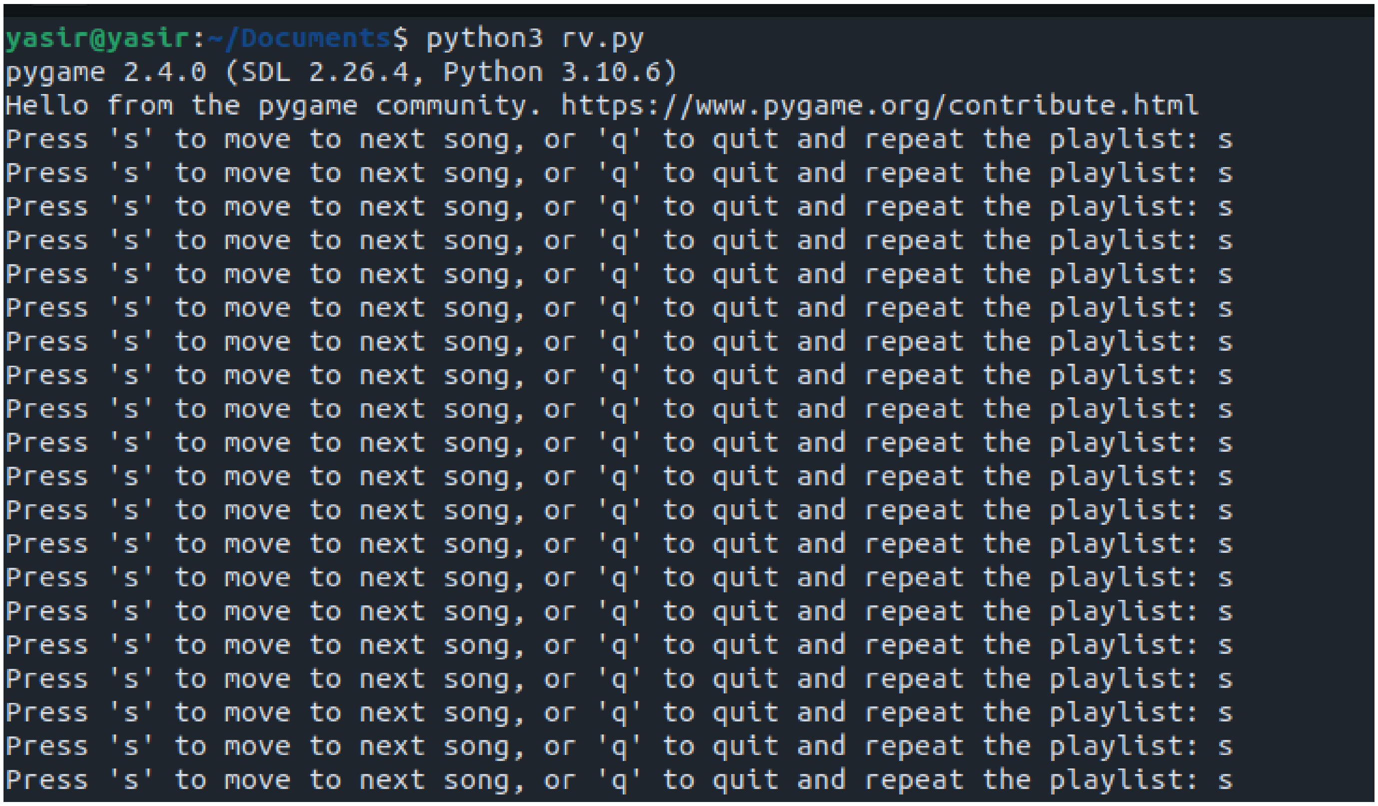

Fig. 11. output