REPORT ON SOFTWARE PROJECT

AI1110: Probability and Random Variables
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I. Introduction

The Music Player project is a simple application that allows users to play and control the playback of audio files. This project is implemented using the Pygame library in Python, which provides functionality for graphics and audio. The application provides basic functionalities such as playing the next or previous song, pausing and resuming the playback, and displaying the currently playing song.The provided code is a simple music player implemented using the Pygame library. It allows users to play a shuffled playlist of 20 songs and provides basic controls through a graphical user interface (GUI).

II. Implementation

Playlist Creation:
The code starts by creating a list of audio files representing the songs in the playlist.The create_random_playlist function shuffles the list to create a random order for the songs.

Music Playback:
The Pygame library is initialized using pygame.init().The code loops through each song in the random playlist.For each song, it loads the audio file using pygame.mixer.music.load(song) and plays it using pygame.mixer.music.play().The code then waits until the song finishes playing using pygame.mixer.music.get_busy() in a while loop.After the song finishes, the previous song is stopped using pygame.mixer.music.stop().

Graphical User Interface (GUI):
The GUI window is titled "Music Player" using pygame.display.set_caption.It defines the font for the buttons and creates rectangles for the start, pause, and next button.It checks for key presses to control the music playback:Pressing the spacebar starts or pauses the current song.
Pressing the right arrow key plays the next song in the playlist.

Clean-Up:
After the main loop ends, the pygame mixer is cleaned up using pygame.mixer.quit().

- Importing necessary libraries and initializing pygame.
- Defining color constants using pygame's Color class.
- Creating the pygame screen and initializing the mixer for audio playback.
- Defining a Button class to represent the control buttons in the music player.
- Setting up the initial song list and play stack.
- Creating instances of the Button class for previous, next, and play buttons.
- Setting up the main loop to handle events and update the screen.
- Handling button clicks and updating the play stack accordingly.
- Loading and playing the selected song using pygame's mixer.

A. Dependencies

To run the Music Player, the following dependencies are required:

- Python
- pygame library
- random

Additionally, the following modules are used:

- os

III. Conclusion

The Music Player project provides a basic music player application with features such as playing

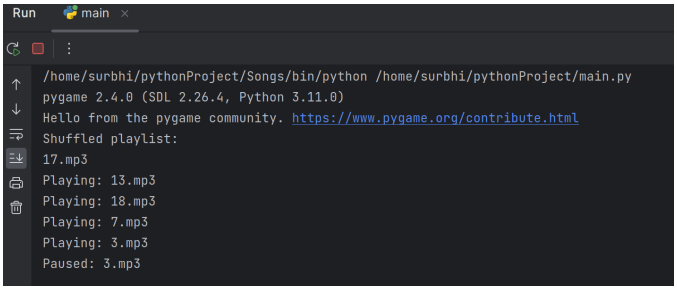

Fig. 1. AUDIO

audio files, controlling playback, and displaying the currently playing song. It demonstrates the use of Pygame and its audio capabilities in Python programming.