Software Assignment Report
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Aim

Aim of this assignment is to make a python script which can make a playlist of songs and shuffle them. The songs must be shuffled such that each song in the playlist is played before it gets looped.

1 Overview

- Use of numpy library is allowed to randomize playlist.

- The songs must be played through either terminal or GUI.

- PyGame library has been used to play audio files.

- os module has been used to search file directory (cwd/songs) by default.

2 Working

1. The program scans the default folder and makes a list of all the mp3 files present in it.

2. shuffle function in the program randomizes the order of the music files.

3. Because the function only randomizes the order, there is no repetition of songs in the playlist.

4. Audio file playback is handled entirely through PyGame module functions. (Pygame mixer is used)

Shuffle function

1. It replaces two elements with the second element to be replaced taken from randint function of numpy.random.

2. As it replaces the elements, there is no repetition in the playlist.

3. This function is executed whenever the playlist reaches the last song and user presses next song button.

3 Notes

- All of this code can easily be converted into a terminal script.

- The program can be used to play mp3 present in any directory, and it has a button to select directories too.

- This can be used to play different file formats in a shuffled way, if the playback functions are changed accordingly.

```python
import random
import pygame

# List of music files in your playlist
playlist = [
    'D:\playlist probability\mp3 probability\IMG_0553.mp3',
    'D:\playlist probability\mp3 probability\IMG_0556.mp3',
    'D:\playlist probability\mp3 probability\IMG_0558.mp3',
    'D:\playlist probability\mp3 probability\IMG_0559.mp3',
    'D:\playlist probability\mp3 probability\IMG_0560.mp3',
    'D:\playlist probability\mp3 probability\IMG_0561.mp3',
    'D:\playlist probability\mp3 probability\IMG_0562.mp3',
    'D:\playlist probability\mp3 probability\IMG_0563.mp3',
    'D:\playlist probability\mp3 probability\IMG_0565.mp3',
    'D:\playlist probability\mp3 probability\IMG_0566.mp3',
    'D:\playlist probability\mp3 probability\IMG_0555n.mp3',


    # Add more music files to the list
]
# Shuffle the playlist
random.shuffle(playlist)
```

```python
def stop_song():
    pygame.mixer.music.stop()

while True:
    print("Enter Command - ")
    var = input()
    if( var == 'p'):
        play_song()
    elif( var == 's'):
        stop_song()
    elif (var == 'n'):
        next_song()
    elif(var == 'p'):
        prev_song()
```