

AI1110: Probability and Random Variables Software Project

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abstract: In this project, we made a program to play a list of 20 songs randomly.

The main logic of the randomization is in the file "randomizer.py". here there is a class called Randomizer, which has a list of song numbers. It has a method, "play_next", which does the following:

- 1) generate a random integer between 0 and the length of the song list minus 1 (both inclusive) using the numpy's random.randint() function
- 2) start playing the song corresponding to that number using pygame's mixer module
- 3) remove that song from the song list
- 4) if all the songs have been removed, reinitialise the list

This way, it plays the songs in random order, and for a particular song, the position of the song being played (0 to 19) follows a uniform distribution. The main.py file uses this play_next function to play the song, and the rest of the code is related to initialising everything and making the GUI work. The GUI consists of a play/pause button, a "next" button, which starts playing the next song, and a list of all songs on the right, which are greyed out one by one after they are played.

link to the randomizer file: https://github.com/Tuhil926/AI1110/blob/main/playlist_project/randomizer.py

link to the main.py file: https://github.com/Tuhil926/AI1110/blob/main/playlist_project/main.py

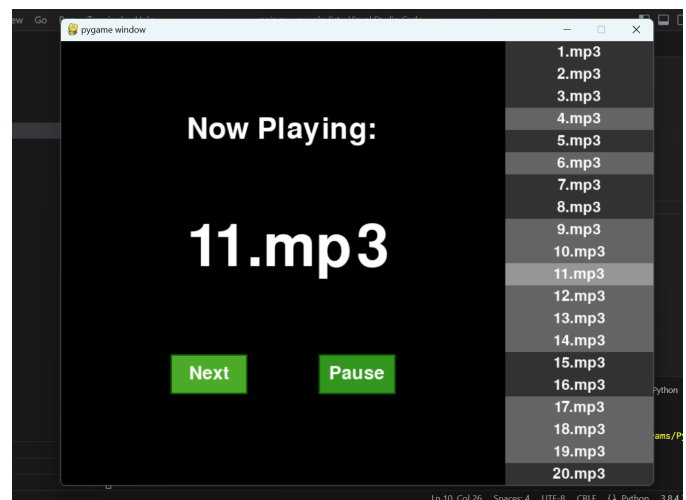


Fig. 1. Screenshot of the GUI