The problem I aim to solve is to make a easy to use but reasonably functional Digital Audio Workstation, to allow users to create basic songs, in the hope that the user is able to create the fundamental beat/pattern, while getting accustomed to more complex DAW workstations.

My code takes an approach of constraining the number of features to the essentials, so that the user is not overwhelmed and learns to use the most important element of any DAW, the storyboard (the place where the song is created). I used pygame, to create the animation, along with the pygame module pymixer, to load audio files which were obtained from the internet and converted to the require format. The program is divided into 3 essential classes-

* The DAW which runs the animation,
* Note- which has abilities to identify the note, its location on the grid, length,etc.
* Instruments- each instrument class contains the prerecorded tones of it along with its own grid.

All of them come together in the DAW class which inherits from pygamegame framework created by Lucas.

So, for the UI, I made a conscious effort to preserve the Grid style MIDI interface seen in many DAW softwares like Logic Pro, while still making it extremely simple and straightforward. This is very important as it unconsciously attunes the user to have an easier time using the more complex DAW softwares. This is the long run aim of my project. For the UI it was kept extremely simple and clean. Many visual aids and queues(colour changing buttons) were provided to keep the program fun and easy on the eyes. A conscious effort was kept to restrict the user input to key presses and mouse clicks as this provides constraints(a favourable design element) and also reduces the possibility of bugs.