CIS 3515 Assignment 10

Instructions: Create a branch of your AudioBB app and update it with new features.

The current version of your application has a few shortcomings:

1. **It can only *stream* audiobooks** – this is problematic because it requires an internet connection whenever a user wants to listen to a book, and also wastes data when a user wants to listen to a portion of the book that they've already heard. It also consumes server resources unnecessarily.
2. **Information on the "Now Playing" book is lost whenever the activity is destroyed** and has to be re-downloaded – If the user exits the main activity and reopens it, they lose any reference to the currently playing book. As such the book has to be re-downloaded, which consumes resources and takes a noticeable amount of time (the UI will not show the correct information when the activity first loads – the data has to be downloaded first)
3. **It does not preserve the users current position in a book** – If the user starts listening to a new book, the last position in the previous book is lost, and the user has to start over from the beginning and manually attempt to find their last position when they go back to that book.

Your application will be updated to address the issues described above in the following ways:

1. Whenever a user begins to Play a book, your app should
   1. Determine if the book has been previously downloaded
      1. If the book has not been downloaded
         1. Stream the book as usual (using the *play(Int)* function)
         2. Simultaneously begin to Download the book in the background using the API provided in the Appendix
      2. If the book has been downloaded, play the book from the downloaded source instead of streaming it (using the *play(File)* or *play(File, Int)* functions)
2. The application must keep track of which book is currently being played, even if the activity is destroyed and recreated, or if the user searches for a new set of books, which does not include the book currently being played.
3. If the user exits and then reopens, or restarts the main activity while a book is being played, the application must keep track of the previous list of searched books. For example, if the user performed a search where 2 books were returned, the application should continue to display only those two books until another search is performed, regardless of if the activity is destroyed in any way, including closing the application entirely and then reopening it.
4. Whenever a user pauses a book, or starts playing a new book while another book is being played, the application must save the current position of the last book. When the user attempts to start playing that book again, it should continue playing from the last position the user stopped (using the *play(File, Int)* function). Note that if the user hits the Stop button on any playing book, the position should not be saved, and if they attempt to start playing the book again it should start playing from the beginning (using either the *play(File)* function or the *play(File, Int)* function with the position argument set to *0*).

Appendix

AudioBB API

Download the file associated with a specified book ID in a supported audio format:

https://kamorris.com/lab/audlib/download.php?id=**<book id>**

Rubric

Application downloads an audiobook automatically if no local copy of book exists	20%
Application plays downloaded version of audiobook if available, or it streams if not	15%
Application is aware of currently playing book, even after activity restart	10%
Application keeps track of books returned from last search, even after activity restarts	15%
Book progress is saved when a book is paused	10%
Book progress is saved if a new book is started while another book was previously playing	10%
Book plays from previously saved progress if downloaded, but starts from 0 if streaming	10%
Pressing Stop when a book is playing resets its saved position to 0 seconds	10%