Assignment 4
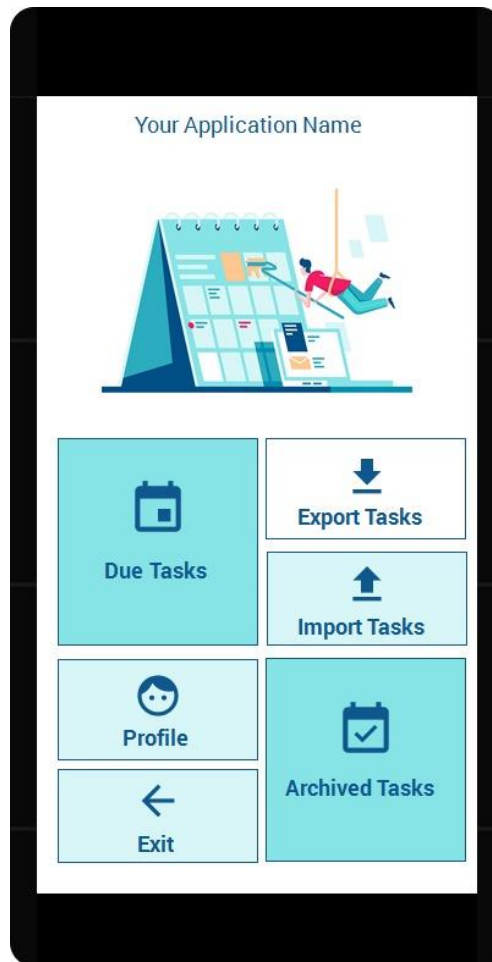
In this assignment, you will implement the import and export features of the task management application from your previous assignment.

Exporting Tasks:

By clicking the *Export Tasks* button in the main page, Android file picker dialog should open, where the user can choose the path and name for the export file to be saved.

As a result, the list of all current tasks of the user should be converted to JSON string format, and then saved as a text file in the path specified by user.

Whether the process is successful or not, a toast message should be displayed at the end to show the error or success of the operation.

Importing Tasks:

When user clicks the *Import Tasks* button in the main page, the file picker should be opened so that user can choose the file he/she wants to import. The file to be imported should be a text file in the exact JSON format that the application exports.

As a result, the text file should be read into a JSON string, and then converted to a list of tasks. This new list of tasks should be appended to the current list of tasks in the app. Finally, a success or error toast message should be shown to the user.

Notes about Implementation:

You should respect common implementation notes mentioned in your previous assignments in this assignment too. In addition:

1. Before working on this assignment, make sure the main functionalities of your Assignment 3 app work as expected, because in this assignment you should complete your code for the previous assignment.

2. For opening the Android file picker page, you should use an intent with ACTION_OPEN_DOCUMENT for opening a file as explained here, and an intent with ACTION_CREATE_DOCUMENT for saving a file as detailed here.

3. For getting the selected file Uri from file picker, onActivityResult should be used in this way. Then it is easy to read the file using the Uri like here, or writing to the file as in this link.

4. For converting a list of objects to JSON and vice versa, you should use the Gson library.

5. For operations like reading from and writing to files, and converting to and from JSON, you should capture and handle the main possible exceptions that may occur. In case of each type of exception, a proper message should be displayed to the user.

Notes about Submission:

1. You should submit a zipped file which includes both your root project folder and the final APK file of your project. You can find the generated APK file of your project in the path *YOURPROJECT/app/build/outputs/apk/* on disk.

2. In order to reduce the size of the project for submission, you can remove the two folders called *build* in your project folders, one is in the path *YOURPROJECT/build* and the other in the path *YOURPROJECT/app/build*. Make sure to get out the APK file before removing these folders.