Discrete Mathematics Project Description

You will be asked to choose one of two projects. Each student will work on his project alone. Plagiarism will be severely punished. You have until 20/12 to deliver your projects and discuss them with your Teaching Assistant.

Project Options:

1- Calendar.
   In this project, you will be asked to write code to implement a calendar, taking into consideration leap years for a correct implementation.
   Inputs: Any year and month.
   Outputs: The calendar for that month.
2- Algorithm Implementation.
   In this project, you will be asked to write code that generates a random file of a given size, or takes from the user a file, and performs one of the following operations on the file:
   a) Encrypt/Decrypt the file with a symmetric key encryption algorithm.
   b) Compress/Decompress the file using LZW compression
   c) Search for a user entered string in the file using Linear Search, and implement it yourself.

Note: Implementing your project with a GUI and visualizing your work will be granted bonus points.

In each of the projects, you will also be asked to deliver a report explaining the steps performed and your understanding of the algorithms used. The report will have ¼ of the project's grade.

Design Diagram of Project (methods)