Summary of design:

When the user begins the app, GenealogyApp will create seven objects: GeneDataBase gdb, MainMenu mm, AddPersonGUI ap, AddMarriageGUI am, SearchGUI search, EditGUI edit, and OutputFile op. GeneDataBase will read in "FamilyTreeInputTextV2.txt" and generate a HashMap<String, Person> with all people (Person class) made. GeneDataBase will continue processing the file to create relationships for the individuals in the map. GenealogyApp will contain the main to better control interactions between classes (using switch statements), but most importantly, GenealogyApp will pass the information gathered from the user in any of the GUIs to GeneDataBase for processing. The user can make as many additions/alterations to the data as they would like using the MainMenu to navigate through what action they would like to perform. Once the user has indicated they are finished, an output file of the final HashMap, with user additions/interactions, will be made for the user to save if they would like, and the program will close.

Classes used in app:

1. GenealogyApp
   a. Main code; contains GeneDataBase, OutputFile, and User objects.
2. GeneDataBase
   a. Processes file at read in, generates HashMap<String id, Person p> data structure for family tree, creates Person objects with all known data stored, and appends relationships to Person objects.
3. OutputFile
   a. Copies HashMap that is stored in GeneDataBase and writes all data to a temporary file that the user may save when they are finished using the app.

4. Person

   a. Contains attributes for all known data about an individual and the relationships the individual shares with other Person objects in the data set. Additionally, calculates the age of a person, deceased or not.

5. MainMenuGUI

   a. User GUI that will allow the user to select what action they would like to carry out in the app, then send that selection to main for more processing.

6. AddPersonGUI

   a. User GUI that uses a combination of data entries to collect all necessary data from the user to create a new person in the family tree. Passes info back via array to GeneDataBase for processing.

7. AddMarriageGUI

   a. User GUI that uses drop-down and text boxes to collect data about a new marriage for any two people in the tree (one male and one female). Passes info back via array to GeneDataBase for processing.

8. SearchGUI

   a. User GUI that presents the user the option to search a variety of attributes about any person in the family tree.

9. EditGUI

   a. User GUI that allows for a change to be made to: given name, family name, suffix, birthplace, dob, death place, dod of any person existing in the hashmap. Can only edit one attribute at a time.