

CSE4060 - Principles of Programming Languages

PROJECT I-II (Due 15/05/2022 23:59)

In this project, you will implement the software described below using **Python and Haskell** programming languages. The details of the user interface (UI) are left for you to design.

A family tree warehouse application (FTWA): creates and manages family trees. FTWA keeps a track of the ancestral hierarchy of the user's family.

The following rules should be included in the project:

- Users should be able to add new members to the family tree and update people in family tree.
- Maintaining only one family tree is enough.
- Each person should keep at least the following information: gender [male, female], name [string], surname [string], birth date [date], death date [date], father [one person], mother [one person], children [zero or more child]
- Users should be able to add any person as child or spouse of a person in the family tree.
- Users should be able to create a placeholder person [record] which has no or few available information, e.g. with just the name.
- Users should be able to reach the following information: alive or dead, age, the level in the family tree. Your program will calculate this information when asked by the user.
- Users should be able to ask the relationship between 2 people. Search can be done with names. If there are more than one person with the same name, all relationships should be given.
- The application should display the tree as meaningful diagram (i.e. printing to console is enough), when asked. The diagram should be informative enough.
- The application should display the relationship types in Turkish. The following types should be supported. You may need to check your knowledge about these relationships in Turkish 😊
 - Anne, Baba, Oğul, Kız, Erkek Kardeş, Kız Kardeş, Abla, Abi
 - Amca, Hala, Dayı, Teyze
 - Yeğen, Kuzen
 - Enişte, Yenge
 - Kayınvalide, Kayınpeder, Gelin, Damat
 - Bacanak, Baldız, Elti, Kayınbirader
- No need for a fancy UI for the application. You can use console for getting input and displaying the tree.
- Marriages will be added as a spouse to a person in the tree.
- Birth and death dates should be realistic. For instance, a person cannot have a child after he/she dies. The application should not allow non-realistic birth and death dates.
- The application should give warnings when any of the spouse is below 18 years old.

This is a group project. You can work in groups of **up to 4 members**.