Logo, Dalarna University

A logo of Dalarna University

**GIK29B: PYTHON AND R PROGRAMMING**

**A PROGRAM TO CREATE AND ADMINISTER HANDBALL TEAMS**

**JAPHET ALFRED NTWALLE**

**2022-10-26**

Table of Contents

[1. INTRODUCTION 3](#_Toc117677801)

# **INTRODUCTION**

This report describes an object-oriented program implemented in the Python programming language. The program allow the user to register and administer handball teams for a handball event. It allow the user to create teams, display team information based on team unique identifiers, name or type. It also allows the user to update different fields of a particuart team, delete a team from the list, save all the team information as string to a text file as well as restore back all the information into the program as objects.

The program contains 3 python script files: team.py, menu.py and script.py . The team.py script contains one class named Team which is used to create teams which are instances of the class Tram. methods to create, read, update,delete, save and restore teams are contained in the menu.py file. The script file contains the main program which allow the user to run the program.

The program is to be executed on the command line interface where the user will run the script-py file and be presented with a menu to perform all the required operations.

# DESCRPTION

In this section, a description of each class used in the program is presented. This includes the purpose of the class and hiw it interact with other classes in the the program

## Class Team

The Team class is contained in the team.py script file. The purpose of this class is to allow the user to create a handball team object containing a team id, date of creation, name, fee status, fee amount and team participation status. The Team class is imported into the menu.py script to be used for creating, updating, reading, and deleting teams.

Text, website

a python class definition

The class Team contains a class variable which is used to increment the id attribute for each object created. This is done to make sure each object created has a unique identification.

### Data attributes

The Team class is initialized by defining the \_\_init\_\_ method and passing the data attributes as parameters. The id and date attributes are set automatically and they are read only as the user can not change them. The user only have access to team name, type and fee status. The fee amount is set automatically depending on the fee status, if a team has paid the fee, the fee amount will be set to 99 otherwise wit will be set to 0. The cancel attribute represents the participation status of the team. All the teams created will have a default value of None with the assumption that all teams will be participating in the event. If a team cancels the attribute will be updated to a date represting the date a team cancelled their participation in the event



### Setters, getters, string method

To restrict user access to the data attributes and validate the user input, the @property decorator is used. A string method is included to allow displaying team information in a human readable format

Graphical user interface, application

Description automatically generated

## Menu class

The Menu class is contained in the menu.py script file and mainly contain methods to perform all the operations. It import the Team class from the team.py file from which objects will be created. The class Menu has a class variable teams which is list storing all the teams created.

The methods in this class perform the following functionalities:

* Create team: Allow the user to create a team by passing in the team name, type ans fee status, the method then create a team and append it to the list of teams
* Display team usin id: display a team information using the team id. The user enters a team id and the methods display the team id, name, type, fee status, fee amount and participation status
* Display team by type: allow the user to display all teams contained in the list by a specified type
* Display all teams: display the information for all the teams contained in the lsit
* Update team name: Update the team name to a new name, to choose a team. To update, the user has to supply the id of that team
  1. Main Program