

Python project report on object-oriented programming to administer teams in handball event

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Introduction

This report involves registering and administrating handball teams for a handball event. The purpose of the program is to create and administer teams which are participating in the event with the help of object-oriented programming language.

In this, users are allowed to do the following tasks:

- Create new Teams
- Read individual teams' details using the ID given.
- Read either boys' or girls' teams' details
- Read all teams' details
- Update specific fields of a team except for ID and date
- Delete a specific Team
- Cancel their registration
- Can see the fee paid percentage
- Saving team details in a file
- Reading the saved file
- Exit from the program

Description

This program is developed using the Object-Oriented Programming approach, where 3 classes were created. They are,

- Main
- Team
- UserInterface

Main Class

- This class displays the menu for the user to select the required option.
- Based on the option selected, it calls the method from the UserInterface class to perform the required task.

```
/Users/balajivijayaraj/PycharmProjects/pythonProject/venv/bin/python /Users/balajivijayaraj/PycharmProjects/pythonProject/Main.py
=====
Menu:
1: Add New team
2: Show Individual Team
3: Show All Team
4: Show Teams based on type
5: Update Team information
6: Delete Team information
7: No.of.Teams and percentage of fees paid by them
8: Writing the data in a file
9: Reading the data from a file
10: Cancel Participation
11: Exit
=====
Enter a valid choice from 1 to 11 :
```

Team Class

- A class called Team is created to initialize all the private attributes.
- Private attributes are team_id, date, team_type, name, fee_paid, fee, cancel_date.
- Date attribute is set automatically and team_id is generated when a new team is created.

UserInterface Class

- This class gets the user-selected option from the menu and calls the respective function to perform the required operation.
- Separate functions for creating, reading, updating, and deleting are created.
- Information that is entered by the user can be stored in a file and can be retrieved using read_file and write_file functions.
- User can also view all the registered teams, individual teams or teams depending on the gender type.
- After finishing the required actions, the user can exit the function.

User Guide

Option 1 – Add a new team

This allows the user to add the name of the team, team type(Boys or Girls), fee amount and payment status. This function automatically generates dates and gives a unique ID for each team.

```
/Users/balajivijayaraj/PycharmProjects/pythonProject/venv/bin/python /Users/balajivijayaraj/PycharmProjects/pythonProject/Main.py
=====
Menu:
1: Add New team
2: Show Individual Team
3: Show All Team
4: Show Teams based on type
5: Update Team information
6: Delete Team information
7: No.of.Teams and percentage of fees paid by them
8: Writing the data in a file
9: Reading the data from a file
10: Cancel Participation
11: Exit
=====
Enter a valid choice from 1 to 11 : 1
Name of handball team: Berlioz
Type of the team(Boys or Girls): Boys
Do they pay the fees?(Yes/No): Yes
Fee amount paid by the team for the participation: 100

Successful entry

your Team id is 1
```

Option 2 – Show individual team

This function allows the user to select an ID and it displays the respective team.

```
=====
Menu:
1: Add New team
2: Show Individual Team
3: Show All Team
4: Show Teams based on type
5: Update Team information
6: Delete Team information
7: No.of.Teams and percentage of fees paid by them
8: Writing the data in a file
9: Reading the data from a file
10: Cancel Participation
11: Exit
=====
Enter a valid choice from 1 to 11 : 2

Enter the id of the team : 2
-----
Handball Team List
ID : 2
Date : 2022-11-01
Name : Stockholm
Type : Girls
Fee paid : False
Fee Amount : 0
-----
```

Option 3 – Show all teams

It displays all the details about the created teams.

```
Enter a valid choice from 1 to 11 : 3
Handball Team List
-----
ID : 1
Date : 2022-11-01
Name : Borlänge
Type : Boys
Fee paid : True
Fee Amount : 100
-----
ID : 2
Date : 2022-11-01
Name : Stockholm
Type : Girls
Fee paid : False
Fee Amount : 0
-----
ID : 3
Date : 2022-11-01
Name : Lund
Type : Boys
Fee paid : True
Fee Amount : 100
-----
```

Option 4 – Show the team based on the type

This function takes input from the user and displays boys' or girls' teams depending on the input.

```
Enter a valid choice from 1 to 11 : 4
Enter the type of gender need to be chosen:Boys

-----
Handball Team
ID : 1
Date : 2022-11-01
Name : Borlänge
Type : Boys
Fee paid : True
Fee Amount : 100
-----

-----
Handball Team
ID : 3
Date : 2022-11-01
Name : Lund
Type : Boys
Fee paid : True
Fee Amount : 100
-----
```

Option 5 – Update team details

This function allows the user to select the ID of a team for which the fields have to be updated. Changes can be made to the respective fields.

```
Enter a valid choice from 1 to 11 : 5
Enter the id to update : 3
Name of handball team: Malmö
Type of the handball team(Boys or Girls): Girls
Fee paid by hockey team? (yes/no): no

Details Updated.
```

Option 6 – Deleting team

This function prompts the user to enter an ID. User can enter the ID which has to be deleted from the list.

```
Enter a valid choice from 1 to 11 : 6
Enter the id to delete : 1
The team has been deleted from the list
The remaining teams in the list are :
Handball Team List
-----
ID : 1
Date : 2022-11-01
Name : Borlänge
Type : Boys
Fee paid : True
Fee Amount : 100
-----
ID : 2
Date : 2022-11-01
Name : Stockholm
Type : Girls
Fee paid : False
Fee Amount : 0
-----
```

Option 7 - No.of.Teams and percent of all teams that have paid their fee

This option displays the number of teams registered and how many percentages of all teams that have paid their fee.

```
Enter a valid choice from 1 to 11 : 7
Number of teams : 2
Percent of teams that paid the fee 50.00 %
```

Option 8 – Save to text file

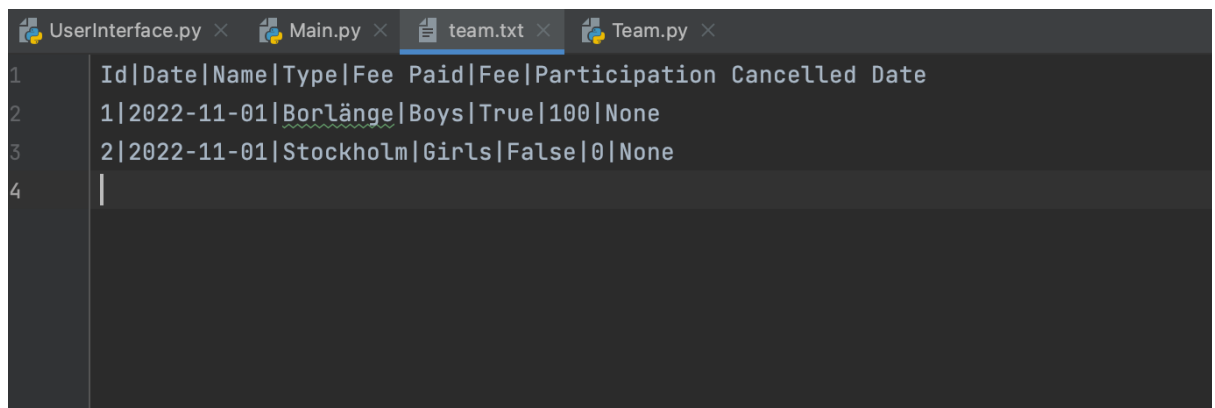
Using this option, the user can save the team details in a text file.

```
-----
Enter a valid choice from 1 to 11 : 8
Your team details are stored in a file Successfully
-----
```

Option 9 – Read from a text file

This function allows the user to read data from the text file and load it into the memory.

```
Enter a valid choice from 1 to 11 : 9
Data Loaded Into Team List
```



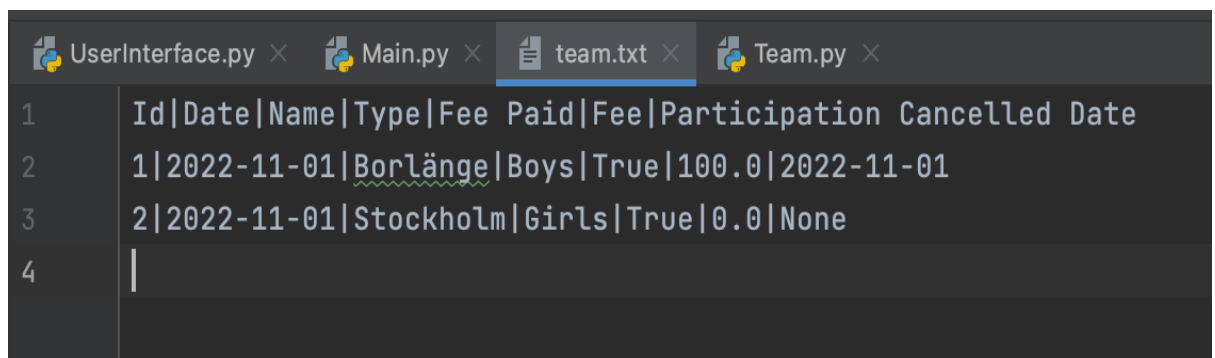
The screenshot shows a code editor with four tabs: 'UserInterface.py', 'Main.py', 'team.txt', and 'Team.py'. The 'team.txt' tab is active, displaying the following content:

```
1 Id|Date|Name|Type|Fee Paid|Fee|Participation Cancelled Date
2 1|2022-11-01|Borlänge|Boys|True|100|None
3 2|2022-11-01|Stockholm|Girls|False|0|None
4 |
```

Option 10 – Cancel Participation

This option enables the user to cancel their participation in the event and stores the date of cancellation.

```
Enter a valid choice from 1 to 11 : 10
Enter the id to cancel participation : 1
Confirm cancelling the participation for the team? (Y/N): y
Participation Cancelled
```



The screenshot shows the same code editor as before, but the 'team.txt' tab now displays the following updated content:

```
1 Id|Date|Name|Type|Fee Paid|Fee|Participation Cancelled Date
2 1|2022-11-01|Borlänge|Boys|True|100.0|2022-11-01
3 2|2022-11-01|Stockholm|Girls|True|0.0|None
4 |
```


Option 11 – Exit

This option allows the user to exit the program.

```
Enter a valid choice from 1 to 11 : 11  
Exit
```