

Library System:

Our School has a system that manage all employees and students and recently they started a small library that got big success and decide to expand this idea and has a good organized system as well.

This system should work independently right now to not be costly and late deliveries but in future should be integrated with general school system.

The manager of the school library would like to have an easy python system that manages books already has as well as new books.

According to this manager these Books are in 3 different categories:

- **Literature books:** that students and teachers are allowed to borrow for max 4 weeks. It is Free of Charge for students and 10SEK for teachers once return on time.
- **Science books:** that students are allowed to borrow for max 4 weeks. And teachers for 2 Weeks. It is 5sek for students and 15SEK for teachers once return on time.
- **Entertainment books:** that students and teachers are allowed to borrow for max 3 weeks. It is Free of Charge for student and for teachers once return on time.

The system should manage these operations:

1. Adding new borrower and identify if it was a teacher or a student.
2. Add a new book.
3. Borrow or rent out a book to teacher or to student and when should be returned.
4. Return a book and print out the charges applied.
5. Print out in the terminal all books we have in library.
6. Print out a report that show:
 - I. the current funds collected,
 - II. how many books we have in the library.
 - III. how many books we borrowed.

How to think as python programmer:

To be able to start with this system we need to think about:

- a. What are the main classes? What is the best integration between them. taking in consideration future integration with school system that has already employees and student in their management system.
- b. As we don't have access yet to permanent database and files, which python data type is the best to save info about teachers, students, Literature books, Science books, Entertainment books to manage borrow and return operations.
- c. What are the methods and attributes we need to be able to manage all operations /methods requested?
- d. Where should we start? Books classes, student class or teacher class or general borrower class?

Todo in groups:

- 1- In a group: write down your plan that answers the questions a-d and present it – 60 min.
- 2- Create the classes as back-end – 4 hours.

- 3- Build the front-end for this project - 8 hours.
- 4- Present your solution to the classroom.