Reqs

- classes : User, Employee, Teacher, Manager, Student, GraduateStudent (can be master or PhD), Admin, Course, Mark, Lesson, Researcher, ResearchPaper, ResearchProject, News, Message.
- 3 languages

Uni system

USer

News with comments. News with a topic "Research" must be prioritized in order (pinned). When some Researcher publishes a paper, there must be an announcement. Also, don't forget to automatically generate news about top cited Researcher in the university.

As it is a research university, it has its own university researh journals. All users in the university (not only researchers) can subscribe to some university journals. The system must notify readers when the new paper in published in the journal they are subscribed. From time to time, new journals appear

Student

Stud types

- different classes for bach, mast, phd. Credits, ed years, etc take into account
- difference about research
- all master's and PhD students have a research supervisor who is a Researcher. If a person whose h-index < 3 is assigned as a supervisor, a custom exception must be thrown.

Basic interactions

- Login
  - View news
  - view course info, view teacher, view prereq,
  - register,
  - send req => trans
  - view schedule
  - view transcript

- rate teachers
  - View Courses, Register for Courses
  - View info about teacher of a specific course
  - View Marks
  - View Transcript
  - Rate teachers
  - Get Transcript
  - Student organizations (e.g., OSIT). Student can be a member/head.

Diploma

Diploma projects. Diploma projects of master and phd students must have a list of published research paper(s).

Employee

  - work messages

Teacher

  1. Complaint to student

Grades

  - generating reports on grades

Lesson

  - enum for type
  - Major, minor, free elective courses. Please note, that for a SITE student some major course from Oil and Gas school can be a free elective.
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Course

  - There can be more than 1 instructor per course

Research

Researchers

In the system, Teachers and Students CAN be researchers. Those teachers, who are professors and PhD students and master students ARE always researchers. However, bachelor students and teachers who are not professors(e.g., tutors, senior lecturers, etc.) can also be researchers. And there can be an employee, who is neither a Teacher nor Student, but he is a Researcher. Researcher has a research projects(s), research papers (also an Object!) etc.

Researcher must have a method `PrintPapers(Comparator c)` that prints his research papers in sorted order, dictated by the comparator - by date published or by citations or by the article length (use pages).

Researcher must have a method to calculate `h-index`.

The system must support printing research papers of all researcher in the university, also sorted by date published or by citations or by the article length. `static printAllResearchPapers`

Printing top cited researcher of the school, of the year.

ResearchPapers

Fields for a `ResearchPaper` can be chosen from here - https://ieeexplore.ieee.org/document/9766691 . Take 5-10 important ones, citations, name, authors, journal, pages, date , doi etc.

ResearchPaper must have a method `String getCitation(Format f),` where format can be either 'Plain Text' or 'Bibtex'.

Research Project

- Topics
- Published papers
- project participants
- non-Researchers cannot join

Ideas

MOST IMPORTANT FUNCTIONALITY - course registration, putting marks, research. Finish it first.

Schedule generation (take into account room load, room type, etc.), Attendance, Report generation option for teacher (about marks), advanced search by regular expressions, startups, recommendation letters.

Codewise

1. superclasses, subclasses, abstract classes,
2. interfaces,
3. enumerations,
4. your own exceptions,
5. patterns (to be studied next week)

Plan

14th week - Use case, start doing class diagram, make some code

15th week - work only on code, start writing the docs, reporr and presentation