Yijia (Tiffany) Gao

Data Structure HW1

* Design:

Classes: Start (main)

User—Student and Admin;

Course; (list of name is in forms of student’s user name in the system with “,” in

between)

(For testing read files, no functions in program)Reader; Token

Interfaces: Student Interface(implemented by Student)

Admin Interface(implemented by Admin)

Serializable Interface

* Workflow
  1. Fill courseList from CSV if first time, De-serializing otherwise
  2. Ask identity: Admin or Student
  3. If admin: enter username and password, if correct
     1. choose from Course Management and Report, (could access only one each time log in)
     2. Menus shows up in console(need to enter the exact content with printed menu)
     3. Course Management (methods in Admin class):
     4. Report(methods in Admin class):
     5. Student Menu(methods in student class but also call methods in Course class):
        1. View all Courses: viewAllCourse method print all courses’ information along with course
        2. View all Courses not full: viewNotFull method print all not full courses
        3. Register Course:register method to register student modify string CourseRegistered in student class and call registerStu method in course class to change current student number and list of names in course,
        4. Withdraw: withdraw method, modify CourseRegistered in student class and call withdrawStu method in course class to change current student number and list of names in course
        5. View all Registered: viewAllReigstered method to see all registered courses names
     6. enter Exit to log out, for both admin and student when finished changes, Serialization method to serialize courseList and studentList
* Method overloading:
  1. Overload constructors for different purpose: one for admin to create course, one for CSV file to read and fill courseList
  2. Method overriding:
     1. Interfaces method overriding
     2. clone method overriding object class
  3. Inheritance
     1. Both student and admin inherited from User class, have same data fields and constructors
  4. Encapsulation
     1. all data fields are private and could only be accessed from other classes by getters and setters