EASTERN INTERNATIONAL UNIVERSITY

SCHOOL OF COMPUTING

AND INFORMATION TECHNOLOGY

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Lab 5

Practice Assignment – Quarter 3, 2023-2024

Course Name: OOP

Course Code: CSE 203

Student's Full Name:

Student ID:

1. **Question 3 in Lab 4**
   - Add a new college student. (College.DAT or Student.Dat).
   - Add a new university student. (University.DAT or Student.Dat).
   - Remove a student from the list with the student code entered from the keyboard. (Delete and update files).
   - Print student list.
   - Print the list of students eligible for graduation and indicate the number of eligible students.
   - Sort the student list ascending by Student type (College, university) and student code (update files).
   - Find student list by student's full name (Contains). (Result.dat)
   - Exit

2. **Develop a university staff management program.**

The university's staff includes lecturers, teaching assistants, researchers, and specialists. All staff members have information about their full name, date of birth, and personnel ID number. Each role requires additional information and has a salary calculation based on the nature of the job, specifically:

- **Lecturers**: Provide additional information about academic rank, academic degree, years of teaching experience, and a list of all subjects currently being taught. The salary of a lecturer is calculated using the formula:

Lecturer's salary=(number of subjects taught×years of teaching×0.12)×20000

- **Teaching assistants**: Provide additional information about the number of subjects they assist with. The salary of a teaching assistant is calculated using the formula:

Teaching assistant's salary=(number of subjects assisted×0.3)×18000

- **Researchers**: Provide additional information about the list of research project codes they are involved in and the number of years of research experience. Each project code starts with a letter followed by two digits, for example, M01, X92, … The salary of a researcher is calculated using the formula:

Researcher's salary=(years of research experience×2+number of projects with codes starting with the letter D)×20000

- **Specialists**: Provide additional information about the list of educational project codes they have completed and the number of years of work experience. Each project code starts with a letter followed by two digits. The salary of a specialist is calculated using the formula:

Specialist's salary=(years of work experience×4+number of projects with codes starting with the letter T)×18000.

Complete the following requirements:
1. Build object classes with corresponding properties, constructor, and methods.
2. Enter the list of staff. (EiuStaff.eiu) - Catch errors when entering necessary information.
3. Enter Id number: Find and edit staff information.
4. Enter the Id number: Remove the staff from the list.
5. Perform the calculation of the total salary of all staff. (TotalSalary.eiu with Text file)
6. Statistics of the total salary of staff by type of staff. (TotalSalarybyType.eiu with Text file)
7. Get a list of the 3 highest paid staff. (HighestPaidStaff.eiu with Binary file)

Submitted: github link (public) and all source code (*.rar file) submitted to moodle