

### Functional requirements:

- Build an application to manage staffs' profiles (including teachers and officers) in University X.
- To teachers, necessary information includes: Full name, department, degree (bachelor, master, doctor), allowance, classes per month, salary rate.
- To officers, necessary information includes: Full name, department, number of working days, salary rate, allowance, position (head officer, deputy officer, officer).

Staff allowance levels are listed below:

Staff	Allowance
Bachelor	300
Master	500
Doctor	1000
Head officer	2000
Deputy officer	1000
Officer	500

Teacher's salary is calculated by the formula: Salary rate \* 730 + Allowance + Number of classes \* 45.

Staff's salary is calculated by the formula: Salary rate \* 730 + Allowance + Number of working days \* 30.

Build an application to manage staff's profiles in the university including the following functions:

- Input staff's information from keyboard
- Search a staff by name and department, then display detailed information of the staff.
- Display the list of all teachers in the university and order by name.

### **OOP Requirements:**

- Apply OOP knowledge to build the application.
- Master in using abstraction, encapsulation, polymorphism and inheritance and use both abstract class and interface in the project.
- The main method only invokes functions without implementation of any business function.

### **UI (User Interface) requirements:**

Refer to the following images to understand functions in the application and how the user interface looks like:

- **Main screen:**

```
University Staff Management 1.0
  1.Add staff
  2.Search staff by name
  3.Search staff by department/faculty
  4.Display all staff
  5.Exit
Select function (1,2,3,4 or 5):
```

- **"Add staff " function: Add a staff**

```

University Staff Management 1.0
    1.Add staff
    2.Search staff by name
    3.Search staff by department/faculty
    4.Display all staff
    5.Exit
Select function (1,2,3,4 or 5): 1
Do you want to create a Staff or a Teacher (enter S for Staff, otherwise for Teacher)?s
Name:Tran Tuan Anh
Salary ratio:3.4
Department:IT
Position (1=HEAD; 2=VICE HEAD; 3=STAFF): 1
Number of working days:22
University Staff Management 1.0
    1.Add staff
    2.Search staff by name
    3.Search staff by department/faculty
    4.Display all staff
    5.Exit
Select function (1,2,3,4 or 5): |

```

- **"Add staff ": Add a teacher**

```

University Staff Management 1.0
    1.Add staff
    2.Search staff by name
    3.Search staff by department/faculty
    4.Display all staff
    5.Exit
Select function (1,2,3,4 or 5): 1
Do you want to create a Staff or a Teacher (enter S for Staff, otherwise for Teacher)?t
Name:Nguyen Hai Nam
Salary ratio:5.2
Faculty:Eng
Degree (1=BACHELOR; 2=MASTER; 3=DOCTOR): 2
Number of teaching hours:45
University Staff Management 1.0
    1.Add staff
    2.Search staff by name
    3.Search staff by department/faculty
    4.Display all staff
    5.Exit
Select function (1,2,3,4 or 5):

```

- **"Display all staffs" function**

```

University Staff Management 1.0
  1.Add staff
  2.Search staff by name
  3.Search staff by department/faculty
  4.Display all staff
  5.Exit
Select function (1,2,3,4 or 5): 4
Results:
Name, Fac/Dept, Deg/Pos, Sal Ratio, Allowance, T.Hours/W.Days, Salary
Nguyen Hai Nam, Eng, MASTER, 5.2, 500.0, 45, 6321.0
Tran Tuan Anh, IT, HEAD, 3.4, 2000.0, 22.0, 5142.0
University Staff Management 1.0
  1.Add staff
  2.Search staff by name
  3.Search staff by department/faculty
  4.Display all staff
  5.Exit
Select function (1,2,3,4 or 5):

```

- **"Search a staff by name" function**

The application would list all staffs, whose name includes the searched keyword entered (which is not case sensitive).

```

University Staff Management 1.0
  1.Add staff
  2.Search staff by name
  3.Search staff by department/faculty
  4.Display all staff
  5.Exit
Select function (1,2,3,4 or 5): 2
  Enter name to search: Tua
Results:
Name, Fac/Dept, Deg/Pos, Sal Ratio, Allowance, T.Hours/W.Days, Salary
Tran Tuan Anh, IT, HEAD, 3.4, 2000.0, 22.0, 5142.0
University Staff Management 1.0
  1.Add staff
  2.Search staff by name
  3.Search staff by department/faculty
  4.Display all staff
  5.Exit
Select function (1,2,3,4 or 5):

```

- **"Search staff by department" function**

The application would list all staffs in the department, whose name includes the searched keyword entered (which is not case sensitive).

University Staff Management 1.0

- 1.Add staff
- 2.Search staff by name
- 3.Search staff by department/faculty
- 4.Display all staff
- 5.Exit

Select function (1,2,3,4 or 5): 3

Enter dept/fac to search: en

Results:

Name, Fac/Dept, Deg/Pos, Sal Ratio, Allowance, T.Hours/W.Days, Salary

Nguyen Hai Nam, Eng, MASTER, 5.2, 500.0, 45, 6321.0

University Staff Management 1.0

- 1.Add staff
- 2.Search staff by name
- 3.Search staff by department/faculty
- 4.Display all staff
- 5.Exit

Select function (1,2,3,4 or 5): |