

Pseudocode

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LOAD DATA:

loadData(departments: List of Department)

Try to open "departments.txt" for reading

If file is not opened

Print "Error"

Return

Clear the departments list (if anything in it)

While loop:

Read line

If line is "Department"

Read department ID

Read department name

Create new a new department object with its ID and name

Read dean ID

Read number of teachers

For each teacher

Read teacher type (FullTimeTeacher or PartTimeTeacher)

Create appropriate teacher object

Load teacher data from file

Add teacher to department

If teacher ID matches dean ID, set as dean

Read number of staff members

For each staff

Create new Staff object

Load staff data from file

Add staff to department

Add department to departments list

Close file

Print "Data loaded"

ADD DEPARTMENT:

```
addDepartments(departments: List of Department)
  Print "Enter Department ID: "
  Read id

  For each department in departments
    If department ID (other variable) same as id
      Throw error "Department already exists"

  Print "Enter Department Name: "
  Read name

  Create new Department object with id and name
  Add department to departments list
  Print "Department added"
```

ADD TEACHER

```
addTeacher(departments: List of Department)
  Print "Available Departments:"
  For each department in departments
    Print department ID and name

  Print "Enter Department ID: "
  Read ID

  Find department by ID
  If not found
    Throw error "Department with ID not found"

  Print "Enter Teacher ID: "
  Read tID

  For each department in departments
    If teacher or staff with tID exists
      Throw error "tID already exists"
```

```
Print "Enter name: "
  Read name
  Print "Enter gender: "
  Read gender
  Print "Enter age: "
  Read age
  Print "Enter address: "
  Read address
  Print "Enter phone number: "
  Read phone
  Print "Enter degree: "
  Read degree
  Print "Enter specialty: "
  Read specialty
  Print "Is Full-time (1 for Yes, 0 for No): "
  Read time

  If fullTime is 1
    Create new FullTimeTeacher object with info above
  Else
    Print "Enter hours: "
    Read hours
    Create new PartTimeTeacher object with provided data and hoursWorked

  Add teacher to department
  Print "Teacher added"
End Method
```

ADD STAFF

```
addStaff(departments: List of Department)
  Print "Enter Staff ID: "
  Read ID

  For each department in departments
    If teacher or staff with ID exists
      Throw error "ID already exists"

  Print "Enter name: "
```

Read name
Print "Enter gender: "
Read gender
Print "Enter age: "
Read age
Print "Enter Department ID: "
Read departmentID
Print "Enter Address: "
Read address
Print "Enter Phone Number: "
Read phone
Print "Enter Duty: "
Read duty
Print "Enter Workload: "
Read workload

Create new Staff object with provided data
Find department by departmentID
If not found
 Throw error "Department with ID not found"

Add staff to department
Print "Staff member added successfully"

SET DEAN:

setDean(departments: List of department)
 Print "Available Departments:"
 For each department in departments lost
 Print department ID and name

Print "Enter Department ID to set dean: "
Read departmentID

Find department by departmentID
If not found:
 Throw error "Department with ID not found"

Print "Available Teachers in Department:"
For each teacher in department
 Print teacher ID and name

Print "Enter Teacher ID: "

Read deanID

Find teacher by deanID in department

If not found

 Error "Teachernot found"

Set teacher as dean

Print "dean set"

SAVE DATA:

saveData(departments: List of Department)

 Try to open "departments.txt" for writing

 If file doesnt open

 Print "Error: Unable to open file to save data"

 Return

For each department in departments

 Save department data to file

Method computePayroll(departments: List of Department)

 Print "Enter Department ID: "

 Read departmentID

 Find department by departmentID

 If not found

 Throw error "Department with ID not found"

Print "Enter Employee ID: "

Read employeeID

For all teacher in department list

 If teacher ID is the same as employeeID

 Compute payroll for teacher

 Print payroll amount

 Return

For all staff in department list

 If staff ID is the same as employeeID

 Compute payroll for staff

 Print payroll amount

 Return

Throw error "Employee with ID not found in Department"