

# Comprehensive Report for Task 4

## 1. Introduction

The purpose of this project is to create a Java package `finalexam.task4` that models a university system. The system includes classes and interfaces to manage professors within a university. The package includes an interface `LegalEntity`, a class `University` that implements this interface, a class `Professor` to represent individual professors, and a tester class `UniversityTester` to demonstrate the functionality.

## 2. Class Descriptions

**LegalEntity Interface** The `LegalEntity` interface defines two methods: `getAddress` and `getVatNumber`. These methods are intended to be implemented by any class that represents a legal entity, providing a standardized way to retrieve the address and VAT number of the entity.

**University Class** The `University` class implements the `LegalEntity` interface and manages a list of professors. It includes methods to add, delete, save, and load professors. The class has two fields: `address` and `vatNumber`, which store the university's address and VAT number, respectively. The `professors` field is a list that holds `Professor` objects.

**Professor Class** The `Professor` class represents an individual professor with fields for name, department, and employee number. It includes getter and setter methods for these fields and an overridden `toString` method for a formatted output of the professor's details.

**UniversityTester Class** The `UniversityTester` class is a simple class that demonstrates the functionality of the `University` class. It creates a `University` object, adds and deletes professors, saves the list of professors to a file, and loads the list from a file.

## 3. Functionality Overview

The `University` class provides methods to manage a list of professors. This includes adding, deleting, saving, and loading professors from a file. The `saveProfessorsToFile` method writes the details of each professor to a file in CSV format. The `loadProfessorsFromFile` method reads the file and reconstructs the list of professors.

## 4. Conclusion

The `finalexam.task4` package successfully models a university system with the capability to manage a list of professors. It demonstrates the use of interfaces and classes in Java to achieve the desired functionality. Future enhancements could include additional fields and methods for more comprehensive management of university data.