



B.Sc. in Computer Science and Engineering
School of Science and Technology
Bangladesh Open University

CSE22P5 Information System Analysis and Design Lab

Lab Report – VII

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Experiment No: VII.

Date: 29 Mar 24.

Title: Design a Class Diagram of a Company.

Context: A company consists of a multiple departments. Departments are located in one or more offices. One office acts as headquarter. Each department has a manager who is recruited from the set of employees. Draw a class diagram which consists of all the classes in this system, their attributes, relationships between the classes, multiplicity specifications, and other model elements that you find appropriate.

Objective:

- Drawing a Class Diagram for a company.
- Clarify system structure, interaction, and functionality.
- Analyze essential components.
- Enhance understanding of system architecture and operation.

Theory: The key components required for the Class Diagram are –

- i. **Class Diagram:-** A use case diagram is a visual representation that illustrates how users interact with a system and the various functionalities the system provides.
- ii. **Basic Components of Class Diagram:-** In the study of Class Diagrams, key terms like Classes, Attributes, Methods, Associations, Multiplicity, Inheritance, Aggregation, Composition and Dependency play crucial roles. They define the structure, relationships and behaviors within the system, offering insights into its architecture and functionality.

Required Tools and Softwares:

- Sketch Pen & Pad (for sketching the model)
- Wondershare EdrawMax (for designing the diagram)
- MS Word (for writing and furnishing)

Execution:

☐ **Sketching The Model Using Sketch Pen & Pad**

- Understand system requirements.
- Draw classes.
- Add necessary attributes.
- Draw associations and multiplicities.
- Arrows and labels to represent information clearly.
- Design layout on pad allocating space for each component appropriately.
- Carry out refinements before implementation in software.

☐ **Drawing the diagram using Wondershare EdrawMax**

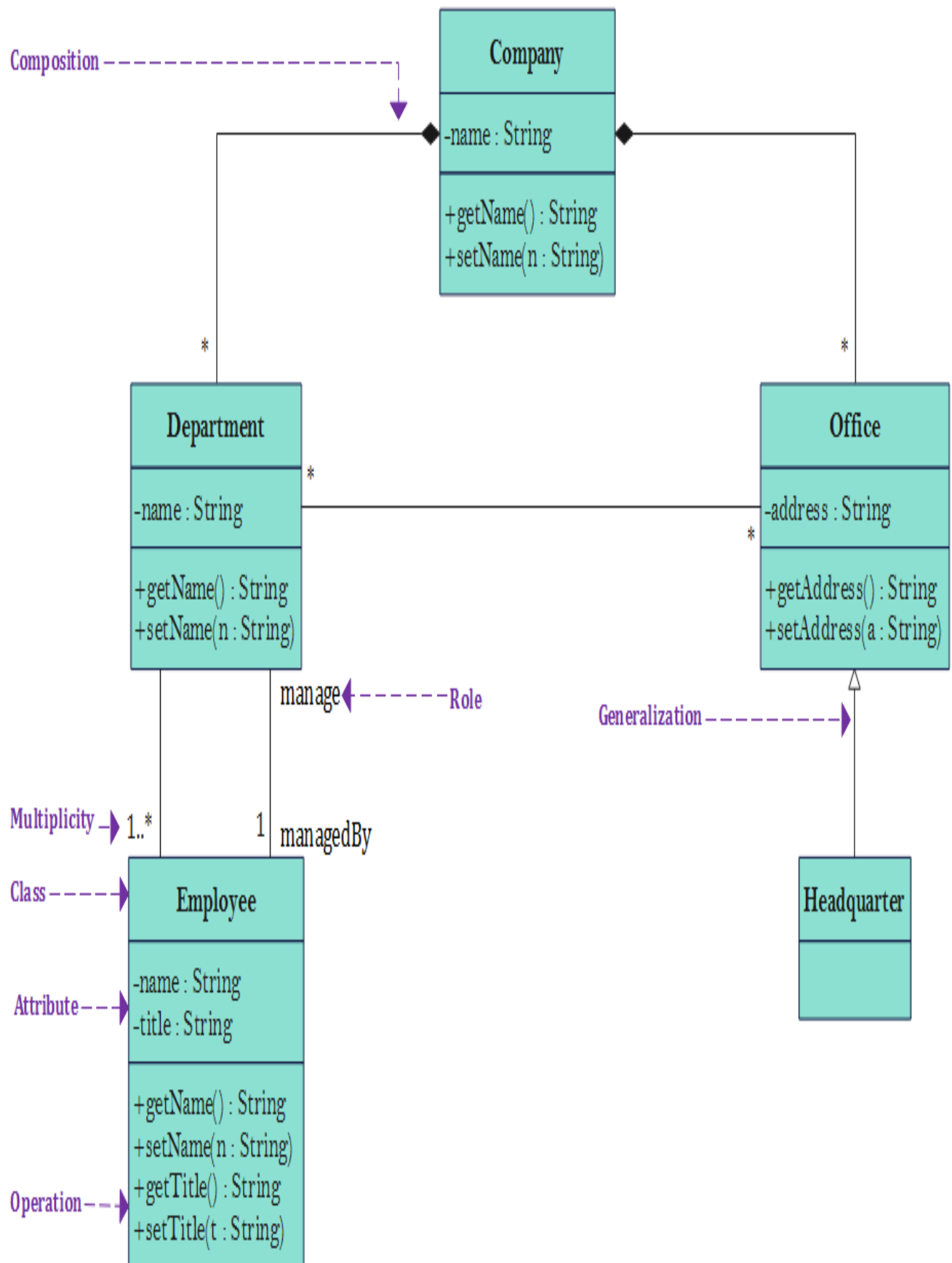
- Launch Wondershare EdrawMax and create a new class drawing.
- Use symbols and connectors to represent all functionalities.
- Arrange sections logically and add labels & texts for clarity.
- Review and revise as needed.

☐ **Formatting the Report using MS Word**

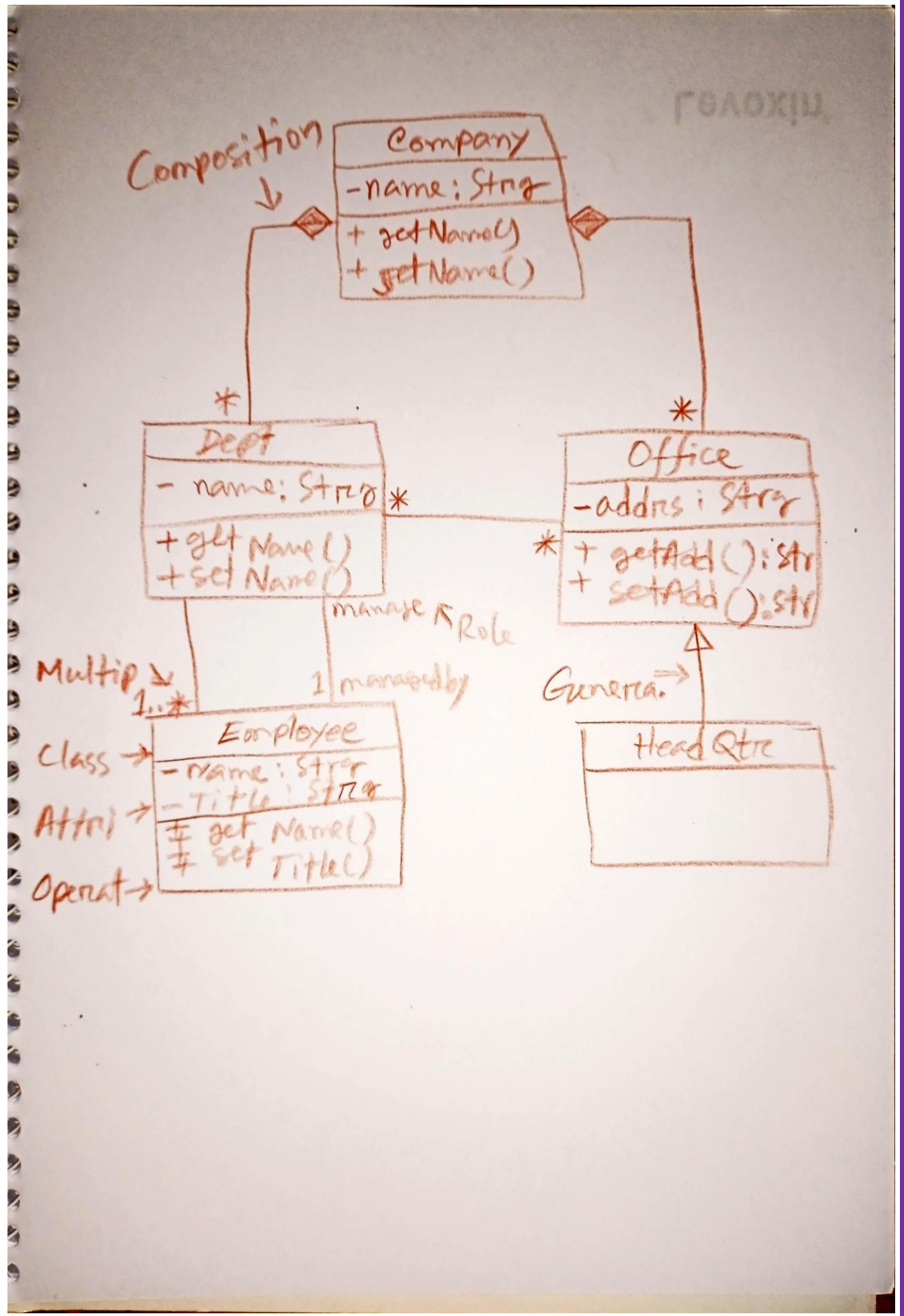
- Open MS Word and create a new document.
- Set up layout and formatting preferences.
- Type content for each section.
- Organize content with appropriate headings and subheadings.
- Insert the drawn class diagram from Wondershare EdrawMax.
- Review the entire document for coherence and professionalism.

Output:

Class Diagram of a Company



Appendix: Sketch



References:

- Book
Schmuller, Joseph, ***SAMS Teach Yourself UML in 24 Hours*** (3rd ed.), SAMS
- URL
 - ***Edraw Max User Manual Professional and All-in-one Diagramming Software***
<https://www.edrawsoft.com/guide/edraw-max-user-manual-en.pdf>
 - ***Edraw Max User Guide***
<https://images.edrawsoft.com/guide/edrawmax/edrawmax-user-manual-en.pdf>

