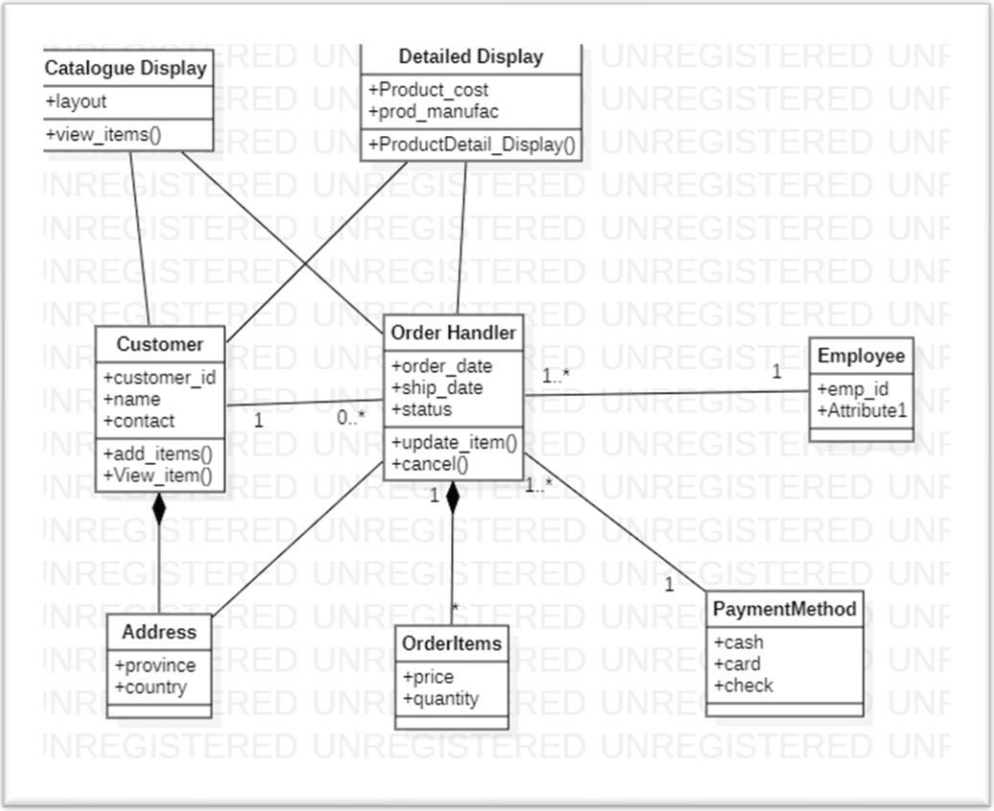
Saad Ali Hafiz
18B-025-SE-A

LAB: 02

Task 1: Create a UML Class diagram of the below scenario also include all possible relations

1. An **Order** is ordered by a **Customer**.
2. An **Order** is fulfilled by an **Employee**.
3. An **Order** is paid via a **Payment Method**.
4. An **Order** is shipped via an **Address** belonging to the **Customer** who is the buyer.
5. An **Order** is composed of **Order Items**.

Note: Add appropriate attributes and methods according to the order management system



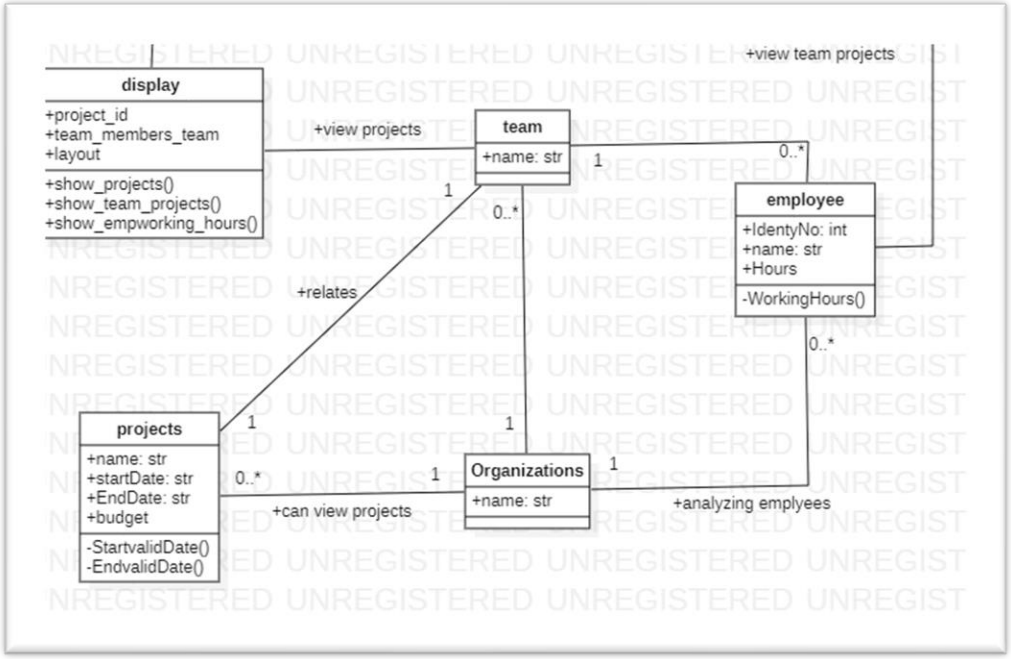
Task 2: Create a UML Class diagram of the below scenario

Project Management System

Organizations, projects, team, employee and employee roles in teams. An organization relates to zero or more projects, zero or more teams and zero or more people who are employee of the organization. A project related to a single organization and to a single team. A team relates to a single organization to a single project. A person relates to a single organization that is an employer. A team relates to a zero or

more people as member of the team in which a person plays a role. A person relates to a single team in which a person plays a role.

A project has name that is a string, a start and end date that are strings, a budget that is a real number and an operation to ensure that the start date and end date of a project are valid. Each team and organization has a name that is a string. A person has an identification number that is an integer, a name that is string, hours that they are available to work, and an operation to determine whether the number of hours that they are available to work, and an operation to determine whether the number of hours that they are available to work is within the range of minimum and maximum number of hours. The relationship between a person and a team defines the title as a string of the role that the person plays on the team. All the attributes and operations are public, but a project's start date, end date and the hours they are available to work are private



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Task 3 Create a UML Class diagram of the given School Management System.

- A school has one or more departments A department can only belong to one school A school has one or more students.
- A student can attend one or more courses
- A courses can have one or more students
- A course is taught by one teacher only
- A teacher can teach one or more courses A teacher is assigned one or more departments A department can have one or more teachers.
- A teacher can be the chairman of zero or one department. A department can have zero or one chairman (teacher) A course belongs to one or more departments.
- A department can have one or more courses etc.