OOAD

Assignment No. 2

Unit No. 2

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CSE-A
Date :

① explain about the Nature of the object and Relation among object?

A. An object has state, behaviour, identity the structure and behaviour of similar objects are defined in their common class. the terms instance and object are interchangable.

State

The state of an object encompasses all of the properties of the object plus the current values of each of these properties.

Behavior :-

Behaviour is how an object acts and reacts, in terms of its state changeable state of object affect its behaviour

Identity :- Identify is that property of an object which distinguishes it from all other.

* Relationships among objects:-

objects contribute to the behaviour of a system by collobrating with one another.

Eg: object structure of an airplane.

There are Two kinds of objects relationships are links and aggregation.

i. Links:-

*A link denotes the specific association through which one object applies the services of another object or through which one object may navigate to another.
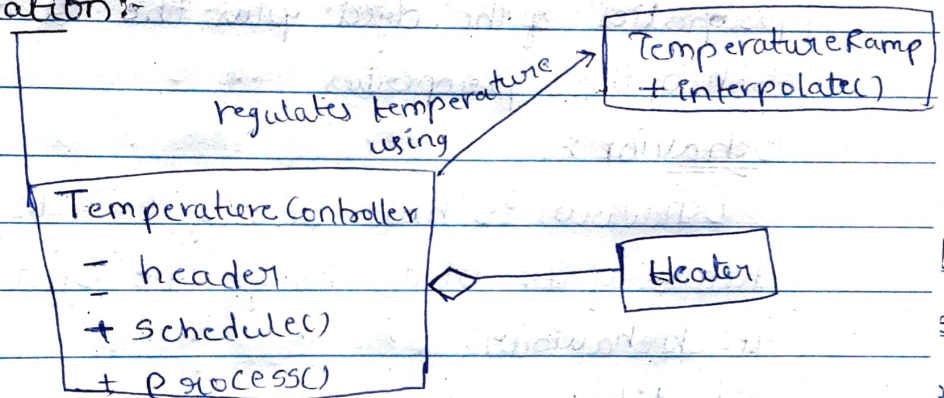
* A line between two object icons represents

the existence of pass along this path
Synchronization :-

Whenever one object passes a message to another across a link, the two objects are said to be synchronized. Active objects embody their own thread of control, so we expect their semantics to be guaranteed in the presence of other active objects.

2. Aggregation :-

whereas links denote peer to peer or client/supplier relationships, aggregation denotes a whole/part hierarchy, with the ability to navigate from the whole to its parts. Aggregation is a specialized kind of association. Aggregation may or may not denote physical containment. Eg airplane is composed of wings, landing gear, and so on.

Q, How to identify the classes and objects?
A, classical and modern approaches: there are three general approaches to classification ., classical categorization
2 conceptual clustering
3 Prototypal theory

1. Classical categorizations:- All the entities that have a given property (or) collection of properties in common forms a category. Such properties are neccesary and sufficient to define the category. i.e married people constitute a category i.e either married (or) not. The values of this property are sufficient to decide to which group a particular person belongs to the category of tall / short people, where we can agree to some absolute criteria.

2. conceptual clustering:- It is a more modern variation of the classical approach and largely derives from attempts to explain how knowledge is represented. In this approach, classes are generated by first formulating conceptual description of these classes and then classifying the entities according to the descriptions. eg. we may state a concept such as "love song". This is a concept more than a property.

3. Prototype theory:-

It is more recent approach of classify where a class of objects is represented by a prototypical object. an object is considered to be a member of this class if and only if it resembles this prototype in significant ways. e-g category like games, not in classical since no single common properties shared by all games, eg. classifying chairs, barber chairs, in prototypes theory, we group things according to the degree of their relationship to concrete prototypes.

3) Discuss about the interplay of classes and objects ?

A) * classes and objects are separate yet intimately related concepts

* specifically, every object is the instance of some class, and every class has zero or more instances

* For all applications, classes are static, therefore their existence, semantics and relationships are fixed prior to the execution of a program

* similarly, the class of most objects is static, meaning that once an object is created, its class is fixed.

Relationship blw classes and objects:-

For example, consider the classes and objects in the implementation of an air traffic control system. Some of the more important abstractions include planes, flights plans, runways and airspaces. These classes and objects are relatively static. Conversely, the instances of these classes are dynamic. At a fairly slow rate, new run ways are built and old ones are deactivated.

4) Explain about the importance of proper classification of classes and objects ?

A) classification is the means whereby we order knowledge. There is no any golden path to classification.

classification and object oriented development

The identification of classes and objects is the hardest part of object oriented analysis and design, identification involves both discovery and invention. Discovery helps to recognize the key abstractions & mechanisms that form the vocabulary of our problem domain. Through invention, we desire generalized abstractions as well as new mechanisms that specify how objects colaborate discovery and inventions are both problems of classifications

* Intelligent classification is actually a part of all good science Class of should be meaningful is relevant to every speed aspect of object oriented