PARADIGMS

OBJECT-ORIENTED

Sudeep Prasad
sudeep@rapalearning.com

Venugopal Shastri
venu.shastri@gmail.com

रapa Learning

Knowledge As A Service
TRITECH SAMVIT

TYPES – WHY ?

- (MENTI.COM)

TYPES OF TYPE

- STATIC = STRONG TYPING / COMPILER ERRORS AND DETERMINED AT COMPILE TIME
- DYNAMIC = DETERMINED AT RUNTIME
- DUCK TYPING

TYPES AS CLASSES

- (MENTI.COM)

YOUR PREFERENCE

https://forms.microsoft.com/Pages/ResponsePage.aspx?id=DQSIkWdsW0yxEjajBLZtrQAAAAAAAAAAAANAAY-7brxUQjk4TTVZU1hTWjNXQkZISTBCS0ZKWlg4US4u

WHAT IS OO ?

- DIVIDE SOLUTION INTO OBJECTS THAT HAVE BEHAVIOR AND ATTRIBUTES / STATES
- ENCAPSULATION, MODULARITY, POLYMORPHISM
- INHERITANCE
- ABSTRACTION / HIDING

WHY OO ?

- REFLECTS SOMETHING IN THE REAL WORLD
- SECURITY – DATA-HIDING AND ABSTRACTION
- CODE RE-USE

INTROS

- NAME
- INTERESTS – TECHNICAL AND FUN
- FAVORITE PROGRAMMING LANGUAGE

RELATIONSHIPS - 1

https://forms.microsoft.com/Pages/ResponsePage.aspx?id=DQSIkWdsW0yxEjajBLZtrQAAAAAAAAAAAANAAY-7brxUNkVIMkgxS0IwMlZLSVJGRkQxWlNJMEJMVS4u

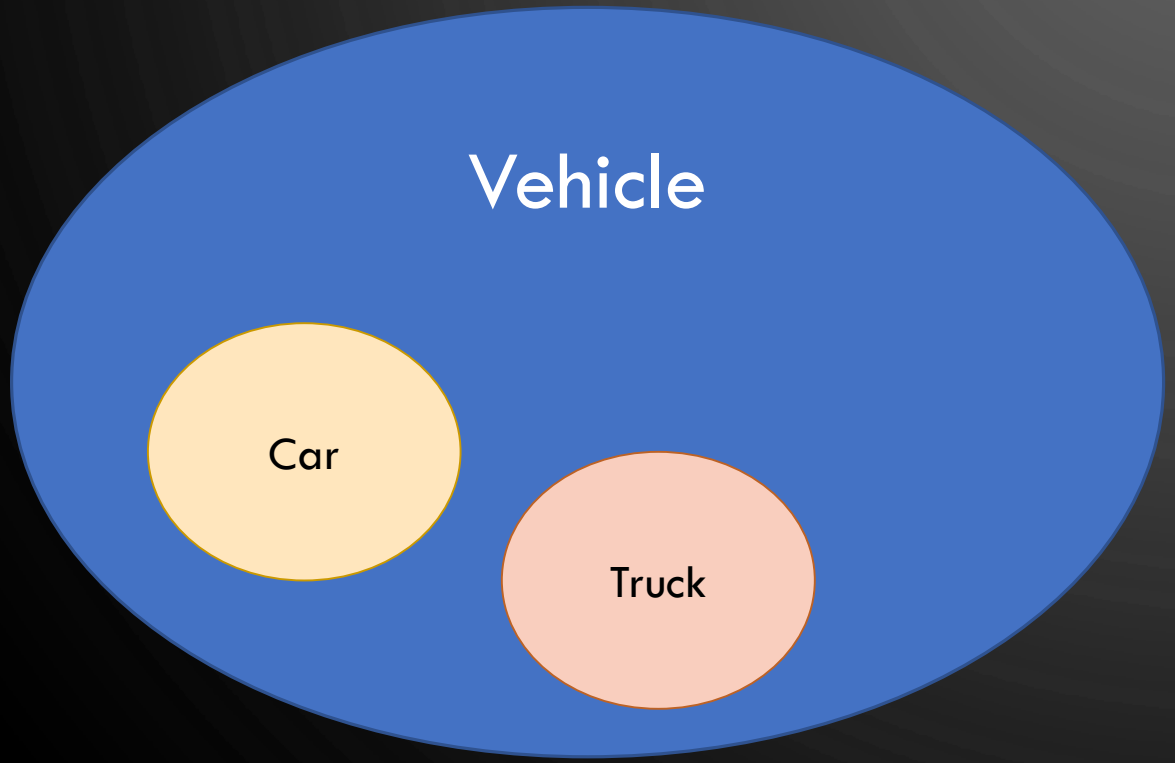
TODAY'S SEQUENCE

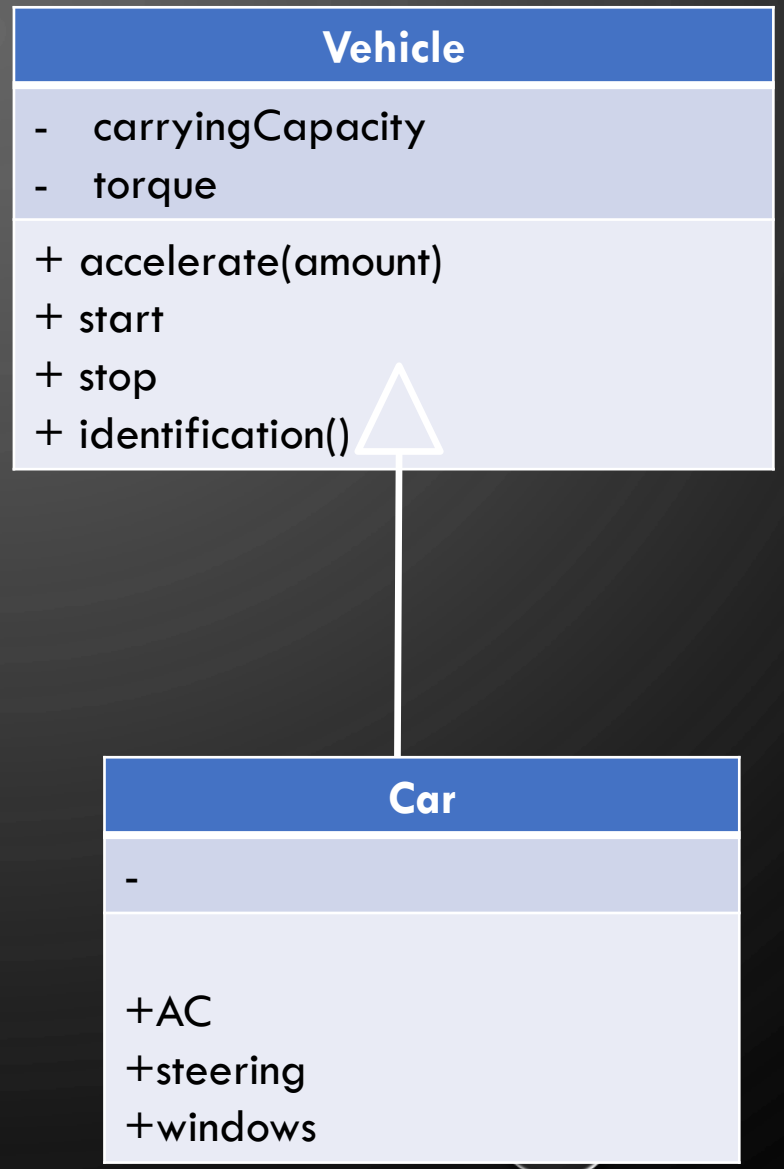
- REVIEW OF BDD
- BDD IN FEATURE-REQUESTS
- START ON THE MUSE
- FINISH OO-THEORY

रapa Learning

Knowledge As A Service TRITECH SAMVIT

SUBCLASSES alias SUBTYPES alias SUBSETS

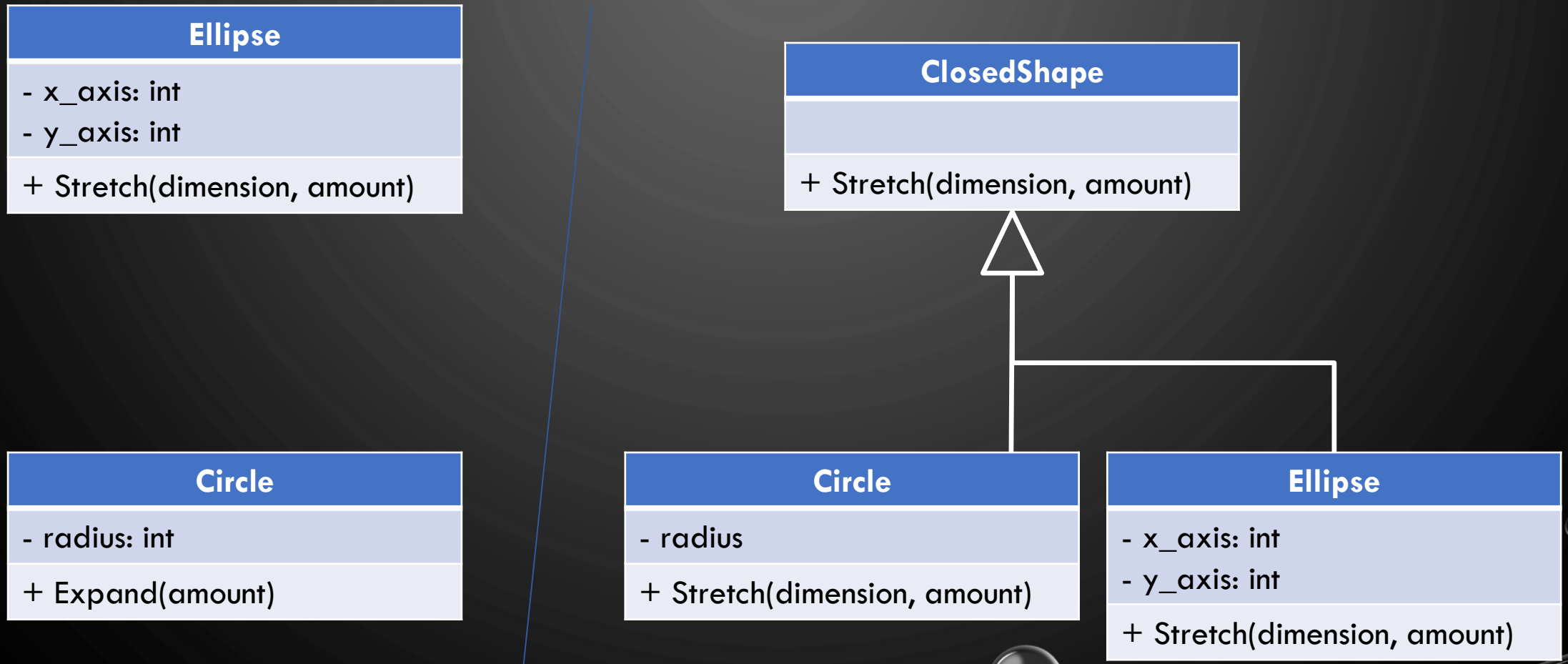




रaपa Learning

Knowledge As A Service TRITECH SAMVIT

CIRCLE/ ELLIPSE QUIZ



UML NOTATION 'STRUCTURAL'

Vehicle
- maxCapacity: int
+ Move(float acceleration)

ServiceCenter
- address: Address
+ GetInventory(): Inventory;

Services

Car
- engine: Engine
- wheels: Wheel[4]
- passengers: List<Passenger>
+ Move(float acceleration)

1 — 1 — **Engine**
…
+ Start()

1 — 4 — **Wheel**
…
+ Start()

1 — 0..4 — **Passenger**
…
+ Start()

Ref: https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-class-diagram/

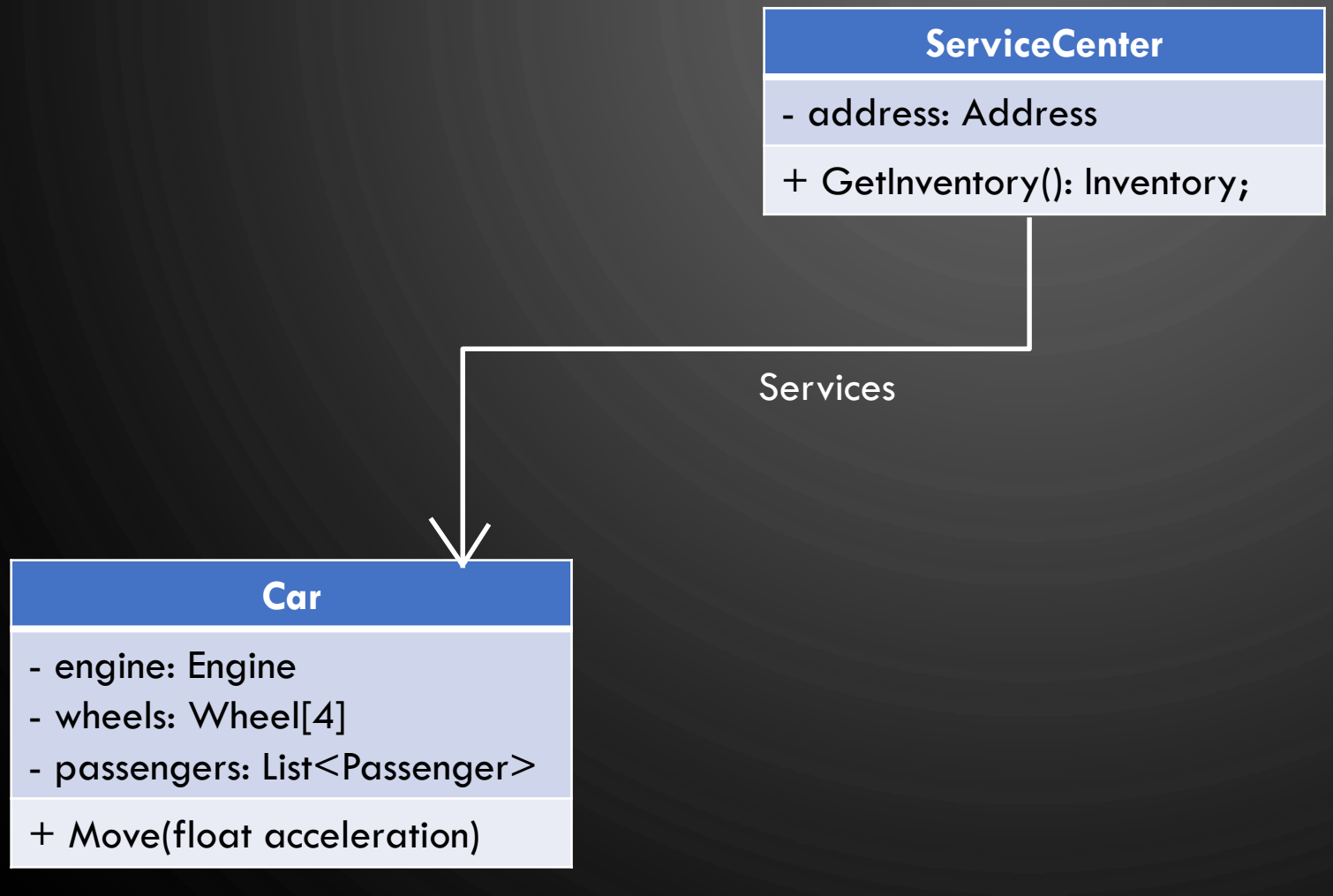
RELATIONSHIP BETWEEN A HOSPITAL AND ITS PATIENTS?

- HOSPITAL 'HAS' PATIENTS ??
- HOSPITAL AGGREGATES PATIENTS
- HOSPITAL TREATS PATIENTS
- HOSPITAL CURES PATIENTS
- HOSPITAL ADMITS PATIENTS
- HOSPITAL PROVIDES CARE TO PATIENTS

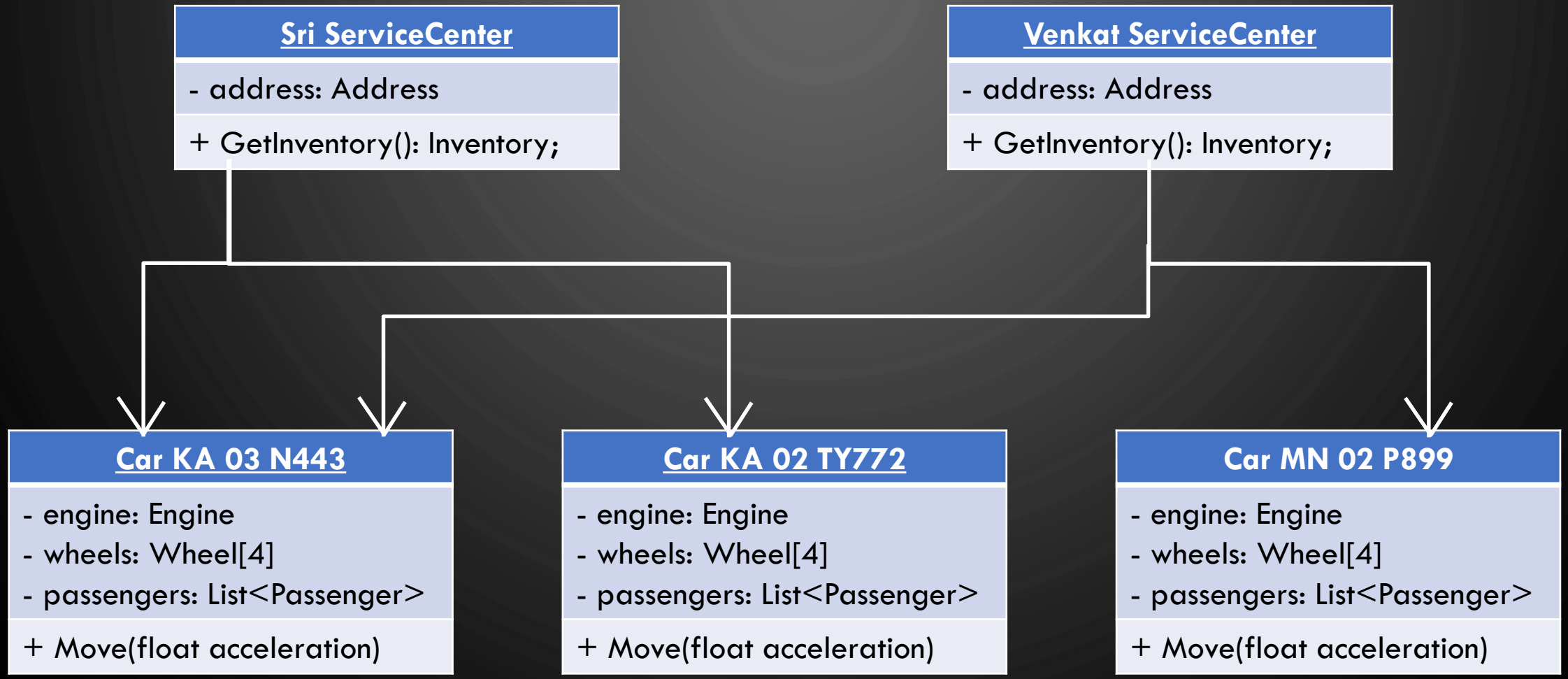
RELATIONSHIP BETWEEN A SORTING ALGORITHM AND A COMPARATOR?

- SORTING ALGO REQUIRES COMPARATOR
- SORTING ALGO HAS RUN-TIME DEPENDENCY ON COMPARATOR
- SORTING ALGO USES / CALLS COMPARATOR

COMING BACK…

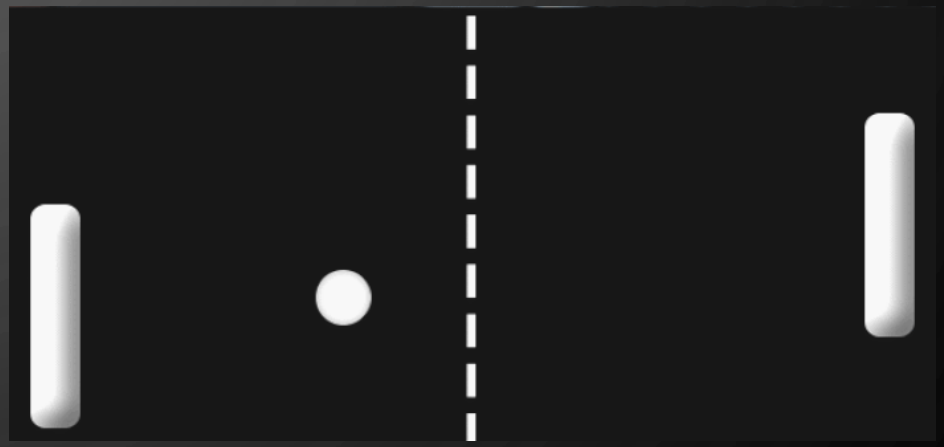

ServiceCenter
- address: Address
+ GetInventory(): Inventory;
Services
Car
- engine: Engine
- wheels: Wheel[4]
- passengers: List<Passenger>
+ Move(float acceleration)

UML NOTATION 'OBJECTS'



CRC CARDS

UpdateScore()	
Responsibilities	Collaborators
Keep count of scores of two players	<module> notifies when a player scores



Ref: http://agilemodeling.com/artifacts/crcModel.htm