Point

-x: double -y: double

Node

Type: D

~keyM: Integer ~itemM: D

~nextM: Node<D>

Shape

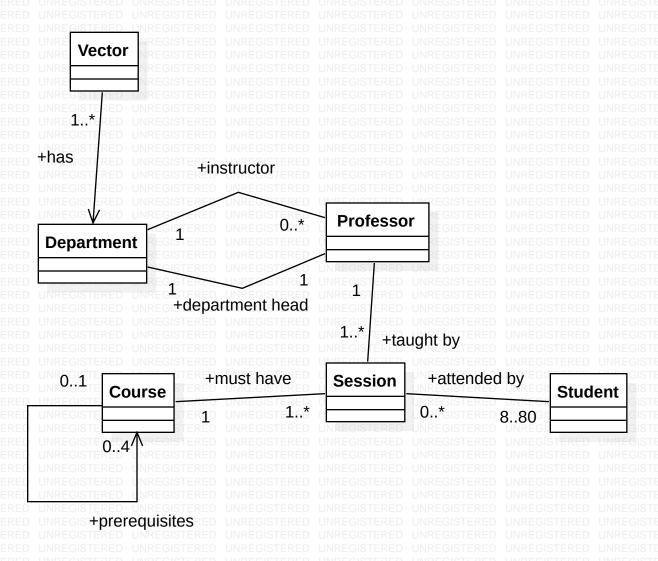
#origin: Point

#shapeName: string

+distance(the_shape: Shape&, other: Shape&): double

+area(): double

«interface»
Cloneable



Exercise C - From Diagram to Code (3 marks)

```
//
// Created by Kaumil Patel on 10/20/2021.
// resizeable.h
//
#ifndef EXERCISE_C_RESIZEABLE_H
#define EXERCISE_C_RESIZEABLE_H
class Resizeable{
public:
  virtual void enlarge(int n) = 0;
  virtual void shrink(int n) = 0;
};
#endif //EXERCISE_C_RESIZEABLE_H
//
// Created by Kaumil Patel on 10/20/2021.
// moveable.h
#ifndef EXERCISE_C_MOVEABLE_H
#define EXERCISE_C_MOVEABLE_H
class Moveable{
public:
  virtual void forward() = 0;
  virtual void backward() = 0;
#endif //EXERCISE_C_MOVEABLE_H
//
// Created by Kaumil Patel on 10/20/2021.
// vehicle.h
//
#ifndef EXERCISE_C_VEHICLE_H
#define EXERCISE_C_VEHICLE_H
#include "moveable.h"
#include "resizeable.h"
class Vehicle: public Moveable, public Resizeable{
protected:
  string name;
public:
  Vehicle(string name);
  virtual void move() = 0;
```

```
void enlarge(int n) final;
  void shrink(int n) final;
  void forward() final;
  void backward() final;
};
#endif //EXERCISE_C_VEHICLE_H
//
// Created by Kaumil Patel on 10/20/2021.
// car.h
//
#ifndef EXERCISE_C_CAR_H
#define EXERCISE_C_CAR_H
#include "vehicle.h"
class Car: public Vehicle{
private:
  int seats;
public:
  void turn();
  void move() final;
};
#endif //EXERCISE_C_CAR_H
```

