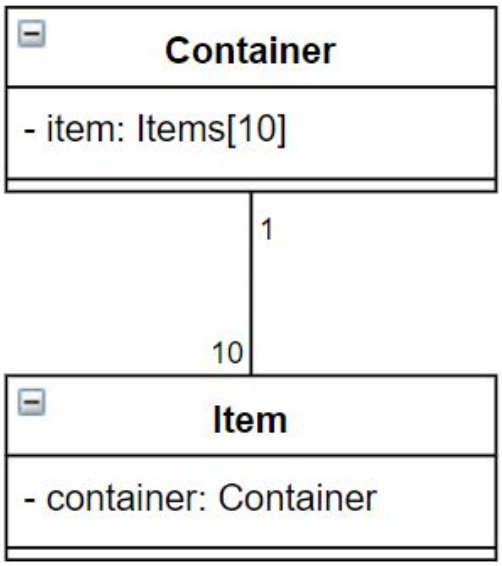
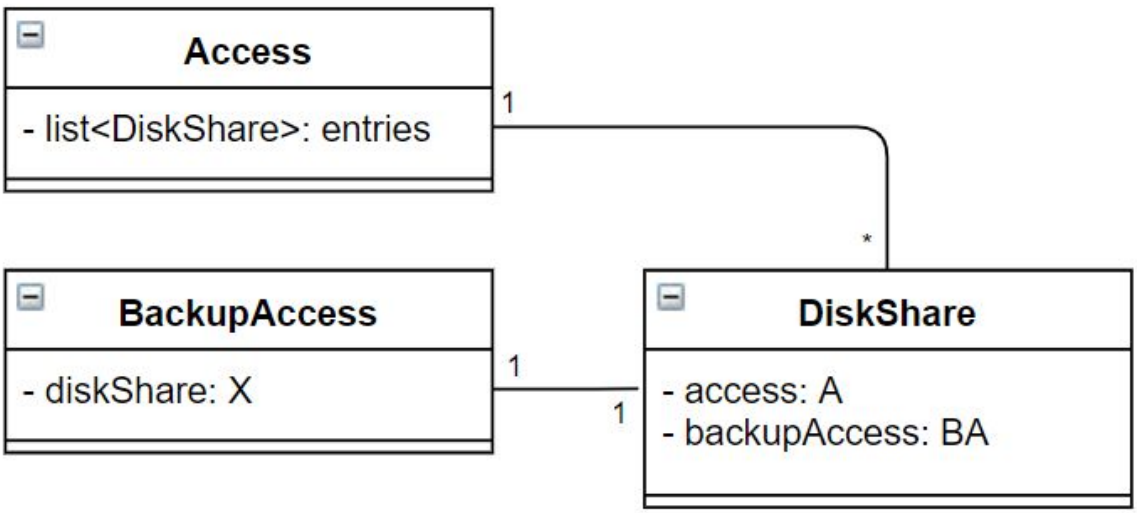
Axel Ward, Cooper Strahan

ESOF 322 Homework 1

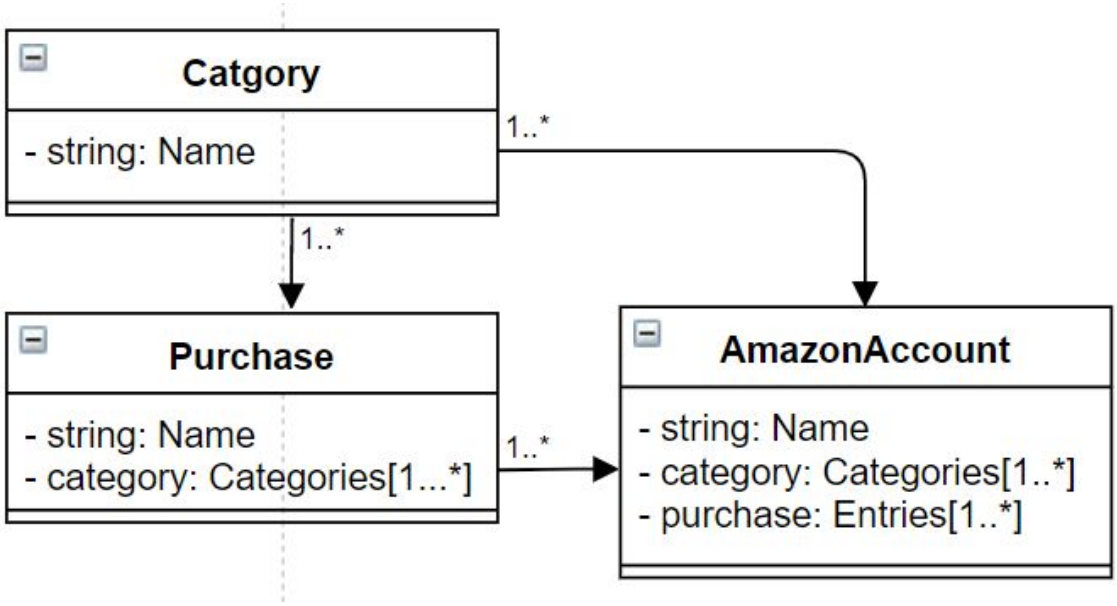
1)



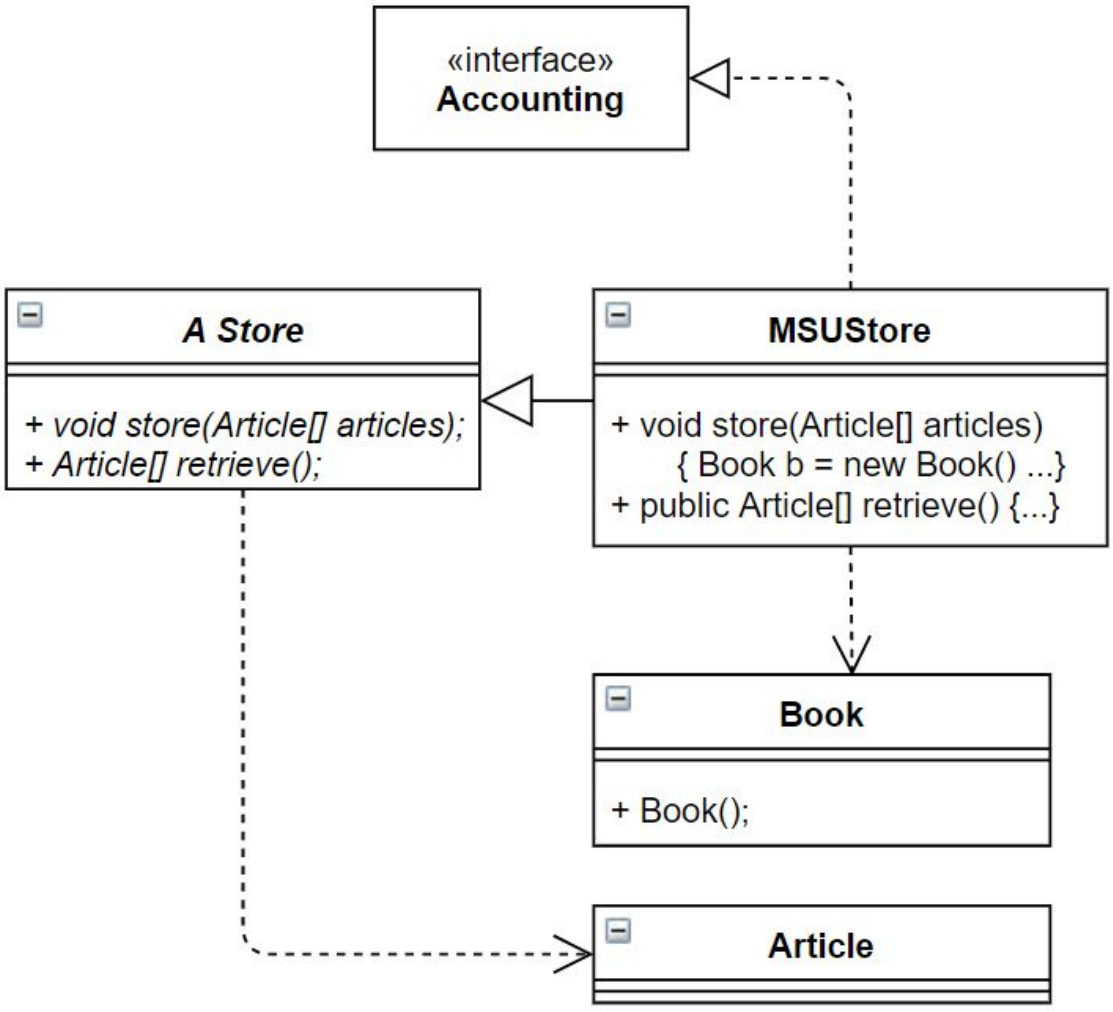
2)



3)


Catgory
- string: Name
1..*
1..*
Purchase
- string: Name
- category: Categories[1...*]
1..*
AmazonAccount
- string: Name
- category: Categories[1..*]
- purchase: Entries[1..*]

4)


«interface»
Accounting
A Store
+ void store(Article[] articles);
+ Article[] retrieve();
MSUStore
+ void store(Article[] articles)
{ Book b = new Book() ...}
+ public Article[] retrieve() {...}
Book
+ Book();
Article

5)

```
Public abstract class Person {
	Public String name;
	Public String email;
}

Public class Employee extends Person {

}

Public class Customer extends person {
	Public BankAccount account;

	Public Customer() {
		BankAccount account = new BankAccount();
	}
}

Public class Subcontractor extends Employee, Customer {

}

Public class BankAccount {
	Public UnlimitedNatural number;
	Public String depositor;
	Public String bank;
}

Public class Company {
	Public String name;
	Public Address headquarters;
	Public Employee employees[];
	Public Car cars[];
	Public Motorbike motorbikes[];
	Public Truck trucks[];
	Public Service vehicleRenter;

	Public Company() {
		vehicleRenter = new VehicleRentalService();
	}
}
```

```
Public abstract class Service {
	Public Customer customer;
}

Public class VehicleRentalService extends Service {
	Public Vehicle vehicle[];
	Public Car offerCar() {...};
	Public Motorbike offerMotorbike() {...};
	Public Truck offerTruck() {...};
}

Public interface IRentable {
	Public void rent();
}

Public abstract class Vehicle implements IRentable {
	Public void rent() {...};
}

Public class Truck extends Vehicle {
	Public UnlimitedNatural weight;
	Public UnlimitedNatural power;
	Public String manufacturer;
	Public String regNo;
}

Public class Car extends Vehicle {
	Public CarKind kind;
	Public UnlimitedNatural noSeats;
	Public UnlimitedNatural power;
	Public String manufacturer;
	Public String regNo;
}

Public class Motorbike extends Vehicle {
	Public MbKind kind;
	Public UnlimitedNatural cylinderCap;
	Public UnlimitedNatural power;
	Public String manufacturer;
	Public String regNo;
}
```