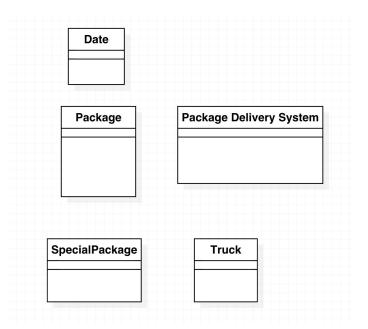
Jiliang Li Karen Weng Liang Xin Bai Jianfeng Xu

Design Submission

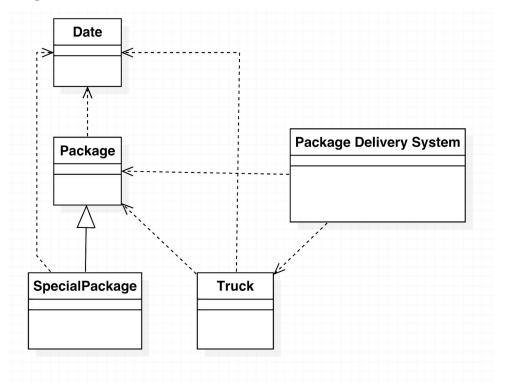
1. (2 points) Create a list of nouns and noun phrases

Nouns and noun phrases in the requirements document		
package	next day	truck type
package ID	special delivery	day limit
receiver company name	truck	delivery stops
delivery zone	truck ID	adjacent zone
delivery date	weight limit	delivery system
weight	volume limit	truck hours
volume	small truck	multiple packages
regular delivery	medium truck	Package delivery system
any time	large truck	input file

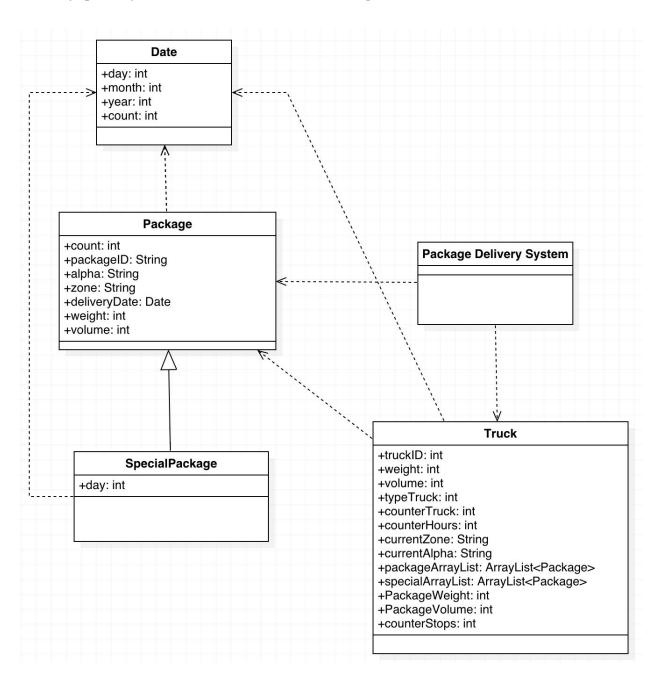
2. (2 points) Create Class Diagrams only for the nouns and noun phrases that have significance



3. (3 points) Show the associations between the classes and any classes that are compositions of other classes.



4. (5 points) Add Attributes to the Class Diagrams created earlier.



5. (5 points) Add Operations to the Class Diagrams created earlier.

Date +day: int +month: int +year: int +count: int +Date() +Date(int, int, int) +Date(int, int) +Date(Date) +getMonth(): int +getDay(): int +getYear(): int +setDate(): void +setYear(): void +setMonth(): void +toString(): String +daysLeftInMonth(): int +increment(): void +equals(Date): boolean

Package +count: int +packageID: String +alpha: String +zone: String +deliveryDate: Date +weight: int +volume: int +Package(String, String, Date, int, int) +Package(Package) +getPackageID(): int +getAlpha(): String +setAlpha(String): void +getZone(): String +setZone(String): void +getDeliveryDate(): Date +setDeliveryDate(Date): void +getWeight(): int +setWeight(int): void +getVolume(): int +setVolume(int): void +toString(): String

SpecialPackage +day: int +SpecialPackage(String, String, Date, int, int, int) +SpecialPackage(SpecialPackage) +getDay(): int +setDay(int): void +toString(): String

	Package Delivery System		
-	+main()		

Truck +truckID: int +weight: int +volume: int +typeTruck: int +counterTruck: int +counterHours: int +currentZone: String +currentAlpha: String +packageArrayList: ArrayList<Package> +specialArrayList: ArrayList<Package> +PackageWeight: int +PackageVolume: int +counterStops: int +getTruckID(): int +getWeight(): int +setWeight(int): void +getVolume(): int +setVolume(int): void +getTypeTruck(): int +setTypeTruck(int): void +getCurrentZone(): String +setCurrentZone(String): void +getCurrentAlpha(): String +setCurrentAlpha(String): void +getPackageWeight(): int +getPackageVolume(): int +setPackageVolume(int): void +setPackageWeight(int): void +getPackageArrayList(): ArrayList<Package> +setPackageArrayList(): void +toString(): String +getSpecialArrayList(): ArrayList<Package> +setSpecialArrayList(): void +getCounterTruck(): int +setCounterTruck(int): void +getCounterHours(): int +setCounterHours(int): void

6. (3 points) Create test cases for each class.

6.Create test cases for each class.

Test cases for Package	Output
test constructor	Orange Inc F6 3/16/2007 105 300
test copy constructor	Orange Inc F6 3/16/2007 105 300

Test cases for SpecialPackage	Output
//test constructor	Orange Inc S6 3/16/2007 105 300
//test exception	weight can not be less than zero!

Test cases for Truck	Output
//test constructor	1 4000 2000 medium 60 70
//test SpecialPackage()	1 4000 2000 medium 60 70
//test exceed volume	False 5000
//test exceed weight	False 10000
//test if can deliver to adjacent zone	currentStops-1

Test Cases for Package Delivery System	Output
Read file does not exist	File does not exist. Throw IO exception

Date	Output
Test constructor 03/02/0000	Throws exception. Year does not exists
Test Constructor 03/-1/2018	Throws Exception. Negative date