

# **Gebze Technical University**

## **Computer Engineering**

**CSE 222 - 2020 Spring**

**HOMEWORK 1 REPORT**

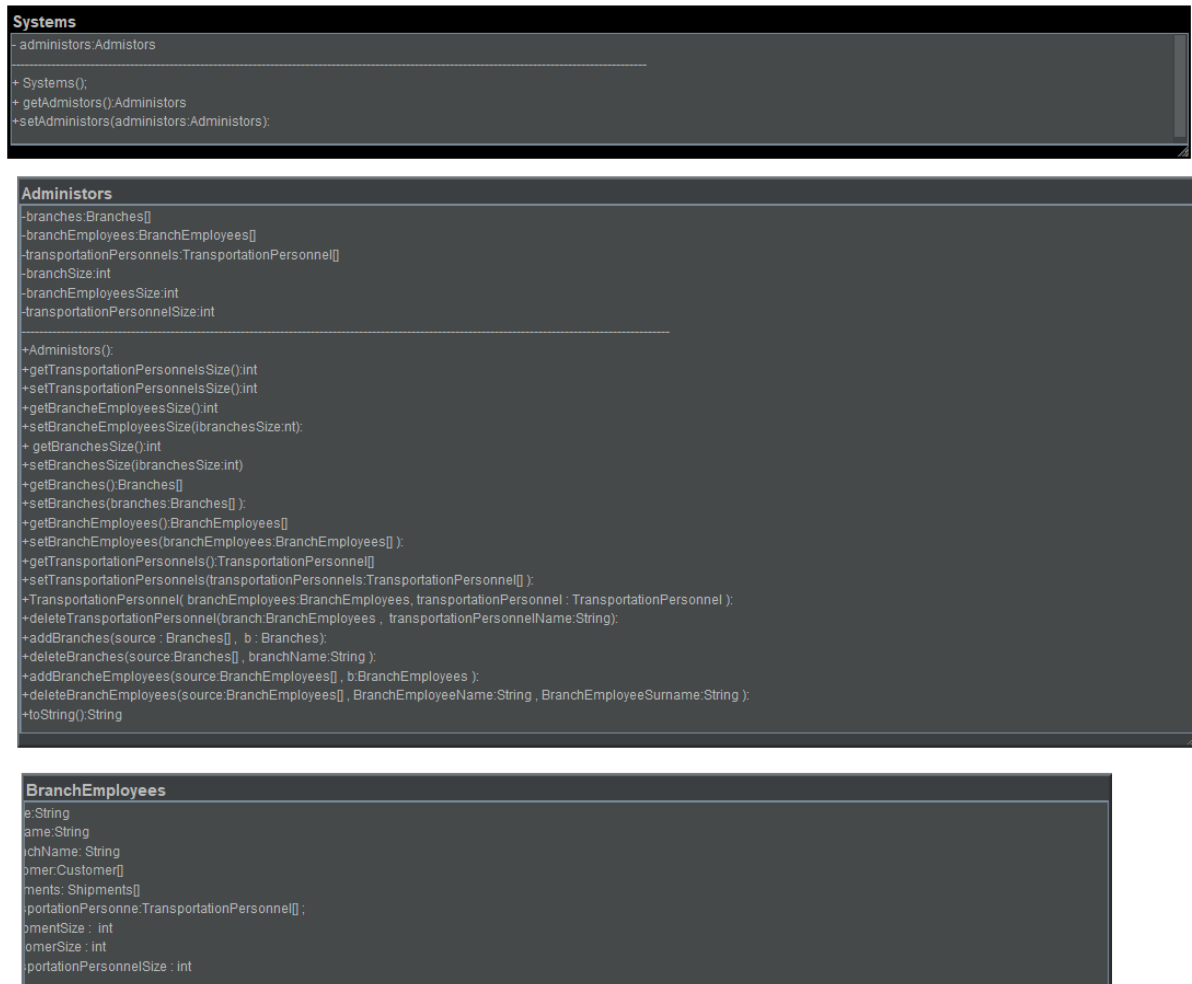
**FATİH OĞUZ**

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## SYSTEM REQUIREMENTS

Administrators manage (add and delete) branches , branch employees, and transportation personnels. Branches store shipments. Branch employees control to which shipment belong to transportation personnel. Transportation personnels deliver shipments to customer. Shipments have informations for sender , receiver. Branch employee update place of shipments in systems and update to deliver to receiver.

## DIAGRAMS



```
+deleteBranches(source:Branches[] , branchName:String );
+addBrancheEmployees(source:BranchEmployees[] , b:BranchEmployees );
+deleteBranchEmployees(source:BranchEmployees[] , BranchEmployeeName:String , BranchEmployeeSurname:String );
+toString():String
```

**BranchEmployees**

```
- name:String
-surname:String
-branchName: String
- customer:Customer[]
-shipments: Shipments[]
-transportationPersonne:TransportationPersonnel[] ;
- shipmentSize : int
- customerSize : int
- transportationPersonnelSize : int

+BranchEmployees():
+ BranchEmployees(name:String ,surname:String ,branchName:String );
+getTransportationPersonnelSize():nt
+setTransportationPersonnelSize( transportationPersonnelSize : int):
+ getTransportationPersonnel():TransportationPersonnel[]
+ setTransportationPersonnel( transportationPersonnel : TransportationPersonnel[]):
+ getCustomerSize() : int
+setCustomerSize(customerSize : int ):
+getBranchName(): String
+setBranchName(branchName:String );
+ getShipments():Shipments[]
+ setShipments( shipments : Shipments[]):
+ getShipmentSize():int
+ setShipmentSize(shipmentSize : int );
+getName():String
+setName(name:String )
+ getSurname():String
+ getCustomer():Customer[]
+ setCustomer(customer : Customer[] );
+setSurname(surname : String );
+ ShippingStatus( shipments : Shipments[] , trackingNumber : String , where : String );
+addCustomer( source : Customer[] ,c: Customer );
+deleteCustomer( source : Customer[] , CustomerName : String , CustomerSurname : String );
+deleteShipments(source : Shipments[] , sender : String , receiver : String , trackingNumber:String );
+ addShipments(source : Shipments [] , s : Shipments , transportationPersonnel: TransportationPersonnel );
+addTransportationPersonnel(source : TransportationPersonnel[] , transportationPersonnel: TransportationPersonnel );
+toString() : String
```

**Branch**

```
- shipments : Shipments[]
```

### Branch

- shipments : Shipments[]  
- name : String  
- shipmentSize : int

+ Branches():  
+Branches(name : String )  
+getShipmentSize():int  
+setShipmentSize(shipmentSize : int )  
+ getShipments() : Shipments[]  
+setShipments(shipments : Shipments[] )  
+ getName():String  
+setName(name : String )  
+toString():String

### TransportationPersonnel

- name :String  
-surname : String  
-shipments : Shipments[]  
- shipmentSize : int

+TransportationPersonnel()  
+TransportationPersonnel(name : String , surname : String , shipments : Shipments[] , shipmentSize:int )  
+ getShipments():Shipments[]  
+setShipments(shipments : Shipments[] )  
+getShipmentSize():int  
+setShipmentSize(shipmentSize : int )  
+getName() : String  
+setName( name : String)  
+ getSurname() : String  
+ setSurname(surname : String )  
+DeliveredShipment( trackingNumber : String)  
+addShipments(source : Shipments[] , shipments : Shipments )  
+toString() : String

### Customer

- name : String  
-surname : String

+Customer(name : String , Surname :String)  
+Customer()

```
+addShipments(source : Shipments[] , shipments : Shipments )
+toString() : String
```

### Customer

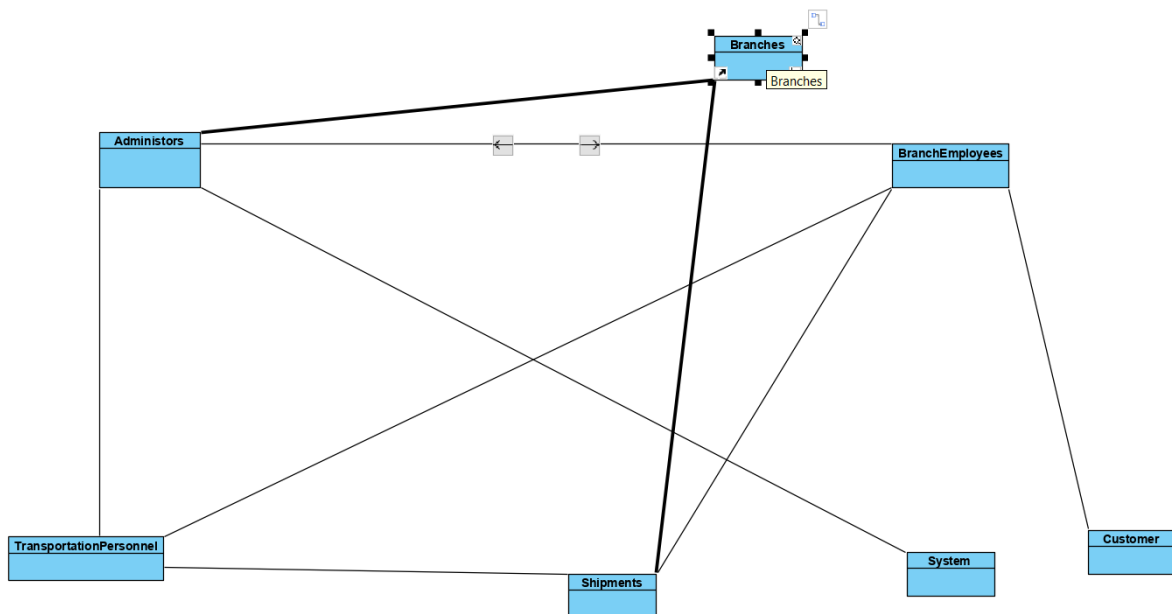
```
- name : String
-surname: String

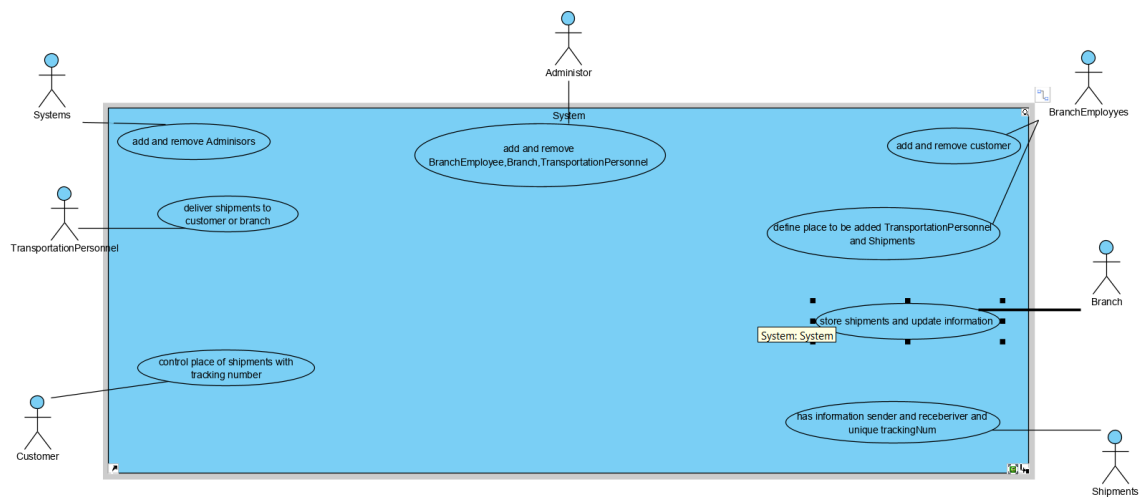
+Customer(name : String , Surname :String)
+Customer()
+ getSurname():String
+setSurname( surname : String )
+getName():String
+SeeingTheSituation(system : Systems ,trackingNumbers : String )
+setName(name:String )
+ toString():String
```

### Shipments

```
-sender : String
-receiver : String
-trackingNumber: String
- where: String

+Shipments()
+Shipments(sender : String ,receiver : String , trackingNumber :String ,where : String )
+setReceiver( receiver: String)
+ getReceiver():String
+setSender(sender:String )
+getSender():String
+setTrackingNumber( trackingNumber : String )
+ getTrackingNumber():String
+setWhere( where : String)
+ getWhere():String
+toString():toString
```





## Problem Solution Approach

Firstly write add and delete functions

(Branch,branchEmployees,TransportationPersonnels) by Administors .

TransportationPersonel delivered shipments and branch employees manage shipments so administors add transportation personnel via branch employees.

Shipments apportion transportation personnels by branch employees.

Customer see situations shipments so shipments has tracking number.

Tracking number is unique for shipments.

Customer can situations shipments in system , use tracking number .

Branch employees update place of shipments . holds package location information for this.branch employee set this location(where is variable)

## Test Cases

- 1- Administors manage(add and delete)  
branch,branchEmployees,transportation personnels.
- 2- Branch employee add and delete customers
- 3- Branch employees deal out shipments to transportational personels(add shipments metot)
- 4- Branch employees update place of shipments(ShippingStatus metot)
- 5- Transportational personnel deliver shipment  
customer(DeliveredShipment metot)
- 6- Customer see place shipments(SeeingTheSituation metot)(via  
trackingNumber)

## Running and Test

```
public static void main(String[] args) {
    Systems s = new Systems();
    Administors a = s.getAdministors();
    System.out.println("ADD TO BRANCHES");
    a.addBranches(a.getBranches(), new Branches( name: "branches a"));
    a.addBranches(a.getBranches(), new Branches( name: "branches b"));
    a.addBranches(a.getBranches(), new Branches( name: "branches c"));
    a.addBranches(a.getBranches(), new Branches( name: "branches d"));

    int i;
    for(i = 0; i < a.getBranchesSize(); ++i) {
        System.out.println(a.getBranches()[i].getName());
    }

    System.out.println("DELETE TO BRANCHES NAME branches b");
    a.deleteBranches(a.getBranches(), branchName: "branches b");

    for(i = 0; i < a.getBranchesSize(); ++i) {
        System.out.println(a.getBranches()[i].getName());
    }

    System.out.println("ADD TO BRANCHEmployees");
    a.addBranchEmployees(a.getBranchEmployees(), new BranchEmployees( name: "Fatih", surname: "OGUZ", branchName: "branches a"));
    a.addBranchEmployees(a.getBranchEmployees(), new BranchEmployees( name: "Mesut", surname: "OGUZ", branchName: "branches a"));
    a.addBranchEmployees(a.getBranchEmployees(), new BranchEmployees( name: "Anil", surname: "OGUZ", branchName: "branches a"));
    a.addBranchEmployees(a.getBranchEmployees(), new BranchEmployees( name: "Selahaddin", surname: "OGUZ", branchName: "branches b"));

    for(i = 0; i < a.getBranchEmployeesSize(); ++i) {
        System.out.println(a.getBranchEmployees()[i]);
    }
}
```

```

for(i = 0; i < a.getBranchEmployeesSize(); ++i) {
    System.out.println(a.getBranchEmployees()[i]);
}

System.out.println("delete TO BRANCHEmployees mesut oguz");
a.deleteBranchEmployees(a.getBranchEmployees(), BranchEmployeeName: "Mesut", BranchEmployeeSurname: "OGUZ");

for(i = 0; i < a.getBranchEmployeesSize(); ++i) {
    System.out.println(a.getBranchEmployees()[i]);
}

PrintStream var10000 = System.out;
BranchEmployees[] var10001 = a.getBranchEmployees();
var10000.println("adminoster add tranportation personnel. And " + var10001[0] + "manage to they.");
a.addTransportationPersonnel(a.getBranchEmployees()[0], new TransportationPersonnel( name: "batuhan", surname: "karadag", a.getBranchEmployees()[0].
a.addTransportationPersonnel(a.getBranchEmployees()[0], new TransportationPersonnel( name: "ilker selim", surname: "ay", a.getBranchEmployees()[0].g
a.addTransportationPersonnel(a.getBranchEmployees()[0], new TransportationPersonnel( name: "metin", surname: "demirci", a.getBranchEmployees()[2].ge

for(i = 0; i < a.getBranchEmployees()[0].getTransportationPersonnelSize(); ++i) {
    System.out.println(a.getBranchEmployees()[0].getTransportationPersonnel()[i]);
}

System.out.println("DELETE to transportation employee İLKER SELİM AY");
a.deleteTransportationPersonnel(a.getBranchEmployees()[0], transportationPersonnelName: "ilker selim");

for(i = 0; i < a.getBranchEmployees()[0].getTransportationPersonnelSize(); ++i) {
    System.out.println(a.getBranchEmployees()[0].getTransportationPersonnel()[i]);
}

```

```

System.out.println("add customer branch employee fatih oguz");
a.getBranchEmployees()[0].addCustomer(a.getBranchEmployees()[0].getCustomer(), new Customer( name: "Melike", Surname: "CAKIR"));
a.getBranchEmployees()[0].addCustomer(a.getBranchEmployees()[0].getCustomer(), new Customer( name: "Esra", Surname: "ERDINC"));
a.getBranchEmployees()[0].addCustomer(a.getBranchEmployees()[0].getCustomer(), new Customer( name: "Ahmet", Surname: "SOGUKPINAR"));

for(i = 0; i < a.getBranchEmployees()[0].getCustomerSize(); ++i) {
    System.out.println(a.getBranchEmployees()[0].getCustomer()[i]);
}

System.out.println("DELETE customer ESRA ERDINC BY branch employee fatih oguz ");
a.getBranchEmployees()[0].deleteCustomer(a.getBranchEmployees()[0].getCustomer(), CustomerName: "Esra", CustomerSurname: "ERDINC");

for(i = 0; i < a.getBranchEmployees()[0].getCustomerSize(); ++i) {
    System.out.println(a.getBranchEmployees()[0].getCustomer()[i]);
}

System.out.println(a.getBranchEmployees()[0]);
a.getBranchEmployees()[0].addShipments(a.getBranchEmployees()[0].getShipments(), new Shipments(a.getBranchEmployees()[0].getCustomer()[0].getName
System.out.println(a.getBranchEmployees()[0].getShipments()[0]);
a.getBranchEmployees()[0].ShippingStatus(s.getAdministors().getBranchEmployees()[0].getShipments(), trackingNumber: "845627", a.getBranchEmployees(
System.out.println(a.getBranchEmployees()[0].getShipments()[0]);
a.getBranchEmployees()[0].getTransportationPersonnel()[0].DeliveredShipment( trackingNumber: "845627");
a.getBranchEmployees()[0].getTransportationPersonnel()[0].DeliveredShipment( trackingNumber: "845627");
System.out.println("Customer see information of shipments with tracking number");
a.getBranchEmployees()[0].getCustomer()[0].SeeingTheSituation(s, trackingNumbers: "845627");
System.out.println("Customer see information of shipments with wrong tracking number");
a.getBranchEmployees()[0].getCustomer()[0].SeeingTheSituation(s, trackingNumbers: "84627");

```



```

ADD TO BRANCHES
branches a
branches b
branches c
branches d
DELETE TO BRANCHES NAME branches b
branches a
branches c
branches d
ADD TO BRANCHEmployees
BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Mesut', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Anil', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Selahaddin', surname='OGUZ', branchName='branches b', customer=[]}
delete TO BRANCHEmployees mesut oguz
BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Anil', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Selahaddin', surname='OGUZ', branchName='branches b', customer=[]}
adminoster add transportation personnel. And BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[]}manage to they.
TransportationPersonnel{name='batuhan', surname='karadag'}
TransportationPersonnel{name='ilker selim', surname='ay'}
TransportationPersonnel{name='metin', surname='demirci'}
DELETE to transportation employee İLKER SELİM AY
TransportationPersonnel{name='batuhan', surname='karadag'}
TransportationPersonnel{name='metin', surname='demirci'}
add customer branch employee fatih oguz
Customer{name='Melike', surname='CAKIR'}
Customer{name='Esra', surname='ERDINC'}
Customer{name='Ahmet', surname='SOGUKPINAR'}
DELETE customer ESRA ERDINC BY branch employee fatih oguz

```

```

delete TO BRANCHEmployees mesut oguz
BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Anil', surname='OGUZ', branchName='branches a', customer=[]}
BranchEmployees{name='Selahaddin', surname='OGUZ', branchName='branches b', customer=[]}
adminoster add transportation personnel. And BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[]}manage to they.
TransportationPersonnel{name='batuhan', surname='karadag'}
TransportationPersonnel{name='ilker selim', surname='ay'}
TransportationPersonnel{name='metin', surname='demirci'}
DELETE to transportation employee İLKER SELİM AY
TransportationPersonnel{name='batuhan', surname='karadag'}
TransportationPersonnel{name='metin', surname='demirci'}
add customer branch employee fatih oguz
Customer{name='Melike', surname='CAKIR'}
Customer{name='Esra', surname='ERDINC'}
Customer{name='Ahmet', surname='SOGUKPINAR'}
DELETE customer ESRA ERDINC BY branch employee fatih oguz
Customer{name='Melike', surname='CAKIR'}
Customer{name='Ahmet', surname='SOGUKPINAR'}
BranchEmployees{name='Fatih', surname='OGUZ', branchName='branches a', customer=[Customer{name='Melike', surname='CAKIR'}, Customer{name='Ahmet', surname='SOGUKPINAR'}]}
Shipments(sender='Melike', receiver='Ahmet', trackingNumber='845627', where='branches a')
Shipments(sender='Melike', receiver='Ahmet', trackingNumber='845627', where='branches b')
Wrong tracking number...
Shipments(sender='Melike', receiver='Ahmet', trackingNumber='845627', where='branches b')
Shipments(sender='Melike', receiver='Ahmet', trackingNumber='845627', where='Delivered')
Customer see information of shipments with tracking number
Shipments(sender='Melike', receiver='Ahmet', trackingNumber='845627', where='Delivered')
Customer see information of shipments with wrong tracking number
wrong tracking number. Please try again

```