LOGISTIC COMPANY MANAGEMENT SYSTEM

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A-Introduction of Program

Program Language: C++

Main Programs Name: Logistic Company Management System

Compiler: CLion

B-Design of Program

1)The Purpose of the Program

This program aims to control, manipulate and delivery product amoung Warehouses. Program is a combination of WMS(Warehouse Management System) and Cargo Management System. In the transportation part, it calculates the fee and kilometer between two warehouses. On the other hand, due to the WMS, makes it easy to monitör product.

Goal: We aim to offer a Warehouse owner to track their product stock at the warehouse, categorize their product, transfer their product between warehouse and calculate the fee of transportation. With this system, you can manipulate the stocks with admin login or display them with user login. We used the C++ language to write this program.

- At the beginnig, our warehouses has a capacity of 1000 Unit Space, which includes products from these genres: Electronical, Home Appliances, Constructions Materials. Defaultly, there are 5 domestic warehouses and they contain 350 Unit Space Electronical, 350 Unit Space Home Appliances, 300 Unit Space Constructions Materials.

- Unit Space is a basic algorithm to calculate the space it will occupy. *Us= Volume*Weight*Amount*0.1

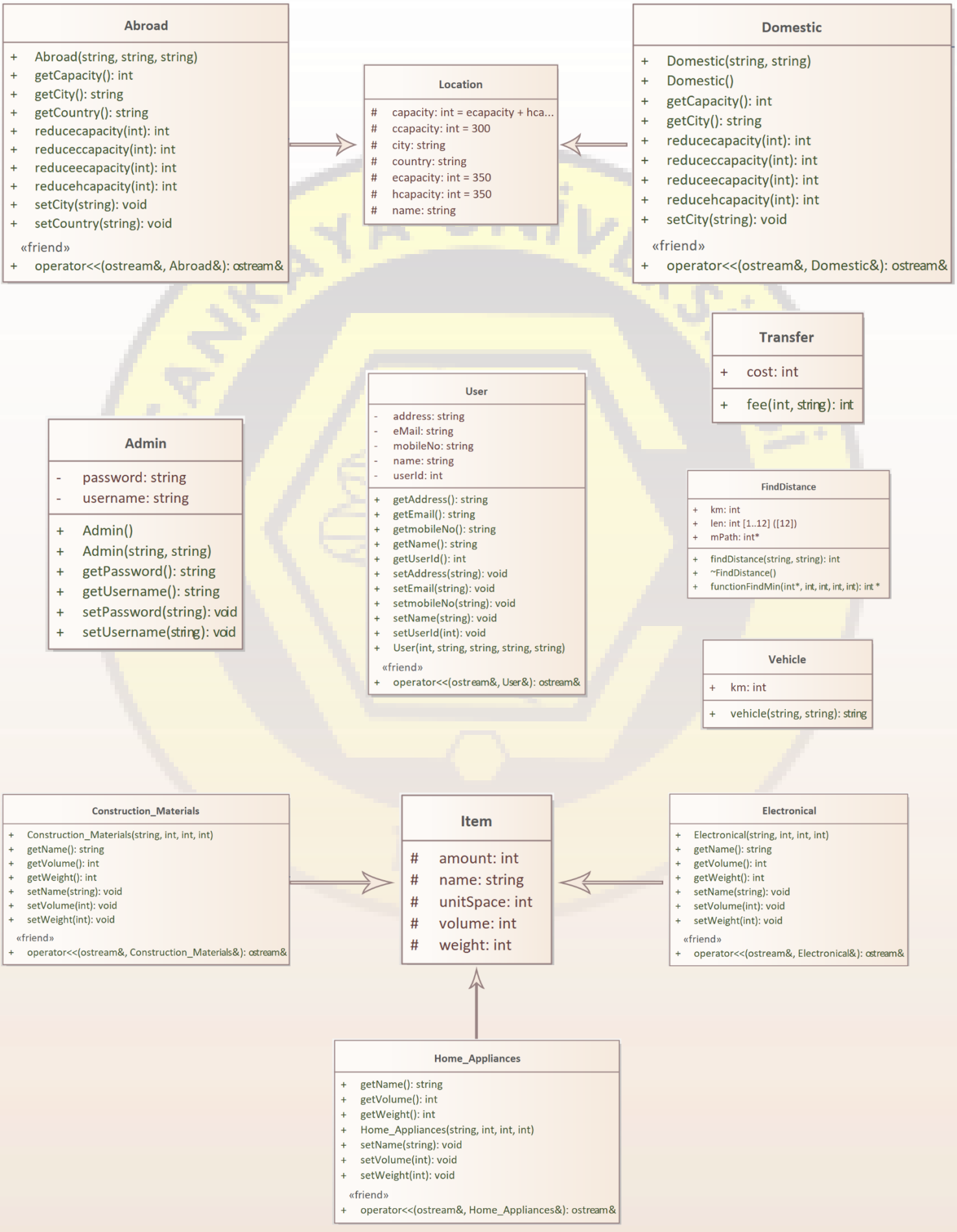
- We are calculating transportation fee due to the domestic or abroad transportation and type of transportation.

- With User login feature; creating new user, displaying user list, displaying warehouses and displaying products is possible but user can not manipulate stocks or warehouses.

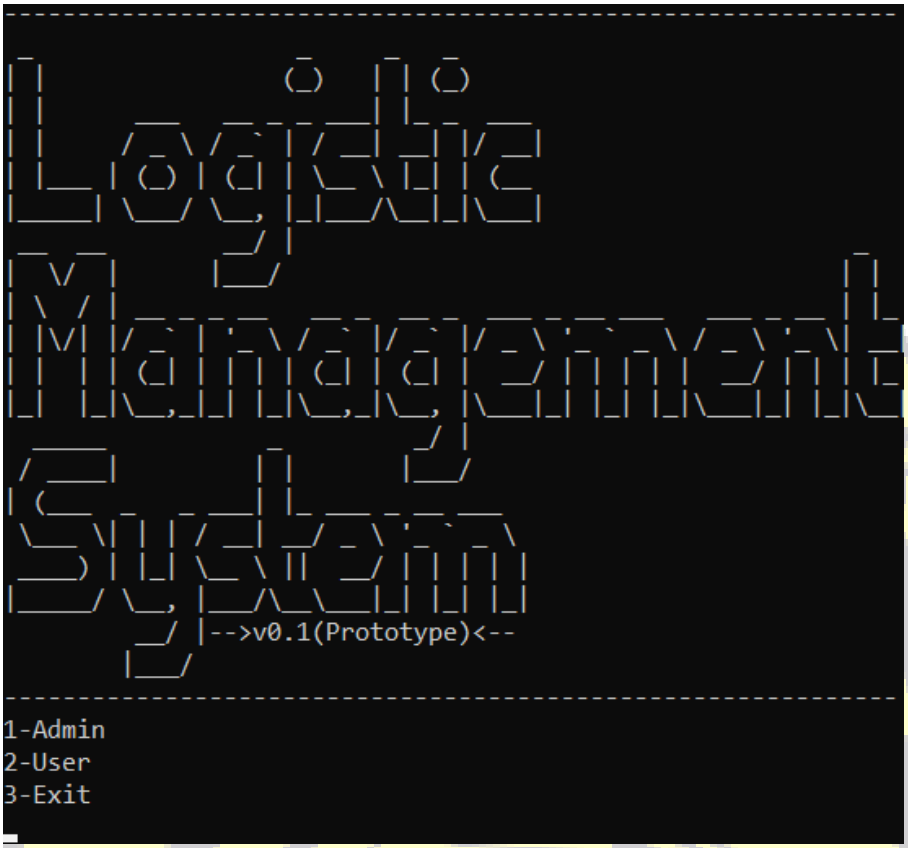
- Users do not have to re-login after go back to main menu but admin should answer the password for login.

- Default Name of admin login is admin and **password** is **root.**

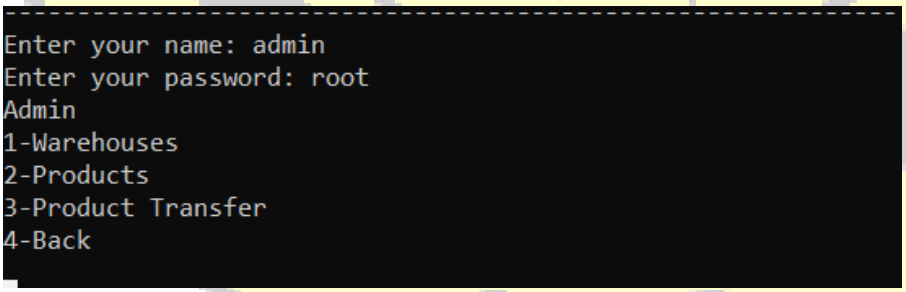
UML CLASS


Abroad
+ Abroad(string, string, string)
+ getCapacity(): int
+ getCity(): string
+ getCountry(): string
+ reducecapacity(int): int
+ reduceccapacity(int): int
+ reduceecapacity(int): int
+ reducehcapacity(int): int
+ setCity(string): void
+ setCountry(string): void
«friend»
+ operator<<(ostream&, Abroad&): ostream&
Location
capacity: int = ecapacity + hca...
ccapacity: int = 300
city: string
country: string
ecapacity: int = 350
hcapacity: int = 350
name: string
Domestic
+ Domestic(string, string)
+ Domestic()
+ getCapacity(): int
+ getCity(): string
+ reducecapacity(int): int
+ reduceccapacity(int): int
+ reduceecapacity(int): int
+ reducehcapacity(int): int
+ setCity(string): void
«friend»
+ operator<<(ostream&, Domestic&): ostream&
Transfer
+ cost: int
+ fee(int, string): int
User
- address: string
- eMail: string
- mobileNo: string
- name: string
- userId: int
+ getAddress(): string
+ getEmail(): string
+ getmobileNo(): string
+ getName(): string
+ getUserId(): int
+ setAddress(string): void
+ setEmail(string): void
+ setmobileNo(string): void
+ setName(string): void
+ setUserId(int): void
+ User(int, string, string, string, string)
«friend»
+ operator<<(ostream&, User&): ostream&
Admin
- password: string
- username: string
+ Admin()
+ Admin(string, string)
+ getPassword(): string
+ getUsername(): string
+ setPassword(string): void
+ setUsername(string): void
FindDistance
+ km: int
+ len: int [1..12] ([12])
+ mPath: int*
+ findDistance(string, string): int
+ ~FindDistance()
+ functionFindMin(int*, int, int, int, int): int *
Vehicle
+ km: int
+ vehicle(string, string): string
Construction_Materials
+ Construction_Materials(string, int, int, int)
+ getName(): string
+ getVolume(): int
+ getWeight(): int
+ setName(string): void
+ setVolume(int): void
+ setWeight(int): void
«friend»
+ operator<<(ostream&, Construction_Materials&): ostream&
Item
amount: int
name: string
unitSpace: int
volume: int
weight: int
Electronical
+ Electronical(string, int, int, int)
+ getName(): string
+ getVolume(): int
+ getWeight(): int
+ setName(string): void
+ setVolume(int): void
+ setWeight(int): void
«friend»
+ operator<<(ostream&, Electronical&): ostream&
Home_Appliances
+ getName(): string
+ getVolume(): int
+ getWeight(): int
+ Home_Appliances(string, int, int, int)
+ setName(string): void
+ setVolume(int): void
+ setWeight(int): void
«friend»
+ operator<<(ostream&, Home_Appliances&): ostream&

PARTS OF THE PROGRAM



1-) The intro part of our program is like this. We have 3 different options: admin login, user login and logout.



2-) If we want to log in to our program with the admin panel, we see the admin name and password. In the admin panel, there are 4 different options for warehouses, products and product transfer and return to the menu.

```
------------------------------------------------------------
Warehouse List
1-Create Warehouse
2-Display Warehouses
3-Exit
1
------------------------------------------------------------
1-Create a warehouse for domestic
2-Create a warehouse for abroad
1
------------------------------------------------------------
Enter the city name(Choose one of them:ankara,istanbul,izmir,konya,kocaeli): ankara
Enter the warehouse name(without spaces): ankara_depo_1
Warehouse created succesfully
------------------------------------------------------------
Warehouse List
1-Create Warehouse
2-Display Warehouses
3-Exit
```

3-) If we press the warehouses part, we can create our new warehouse as well as show the existing warehouses. Since our logistics company is an international company, if you are going to create a new warehouse, you have to specify it will be domestically or abroad and input the other details. If you choose second option, (Display Warehouses) the program display the details of warehouses which are created by us or default.

```
------------------------------------------------------------
Products
1-Create a new product
2-Display Products
3-Back
1
------------------------------------------------------------
Create a new product
What kind of product you want to add?
1-Electronical
2-Home Appliances
3-Construction Materials
1
------------------------------------------------------------
Electronical
Enter the product you want to add, also you have to add the volume and weight of this product
Name: default
Volume: 150
Weight: 250
Amount: 5
Electronical item created succesfully
------------------------------------------------------------
Products
1-Create a new product
2-Display Products
3-Back
```

4-) In this part, there is the part of creating a product and getting the information of that product. If you choose second option, the program shows products and detail of them.

```
------------------------------------------------------------
Product Transfer
1-From domestic to domestic
2-From abroad to domestic
3-From domestic to abroad
4-From abroad to abroad
5-Back
4
------------------------------------------------------------
From abroad to abroad
1 |----------------|  nyc_wh  |--------------------|
__|
Country:                  usa
City:                     nyc
Warehouse Name:           nyc_wh
Electronical Capacity:    350
Home Appliances Capacity: 350
Constuctions Materials:   300
Total Capacity:           1000
-----------------------------------------------------

2 |----------------|  doha_wh  |--------------------|
__|
Country:                  qatar
City:                     doha
Warehouse Name:           doha_wh
Electronical Capacity:    350
Home Appliances Capacity: 350
Constuctions Materials:   300
Total Capacity:           1000
-----------------------------------------------------
```

```
------------------------------------------------------------
Please choose warehouses (abroad)(1, 2, 3..)
To: 2
Choose product type to be sent:
1-Electronical
2-Home Appliances
3-Construction Materials
1
Unit Space of the product: 150
nyc ---> ankara ---> doha km: 2978
Options from New York City <-> Doha : ship,airplane: ship
Distance: 2978 km
Fee: 111675$
Via: ship
------------------------| SUCCEED |-------------------------
-----------------| THANKS FOR CHOOSING US |------------------
------------------------------------------------------------
```

4-) If you need to transfer products between warehouses, the program wants warehouse type (abroad or domestic), warehouse number, product type. It calculates fee, the shortest path and distance to arrive goal warehouse via special algorithm. (The

program uses .txt file which includes data list of distances between the cities as in shape of matrix to calculate path.)

```
------------------------------------------------------------
User
1-Create a new user
2-Display the user list
3-Display the warehouses
4-Display the products
5-Back
1
------------------------------------------------------------
Create a new user
User ID: 201911001
Name: Ali Benna AGAC
Address: Selcuklu/Konya
Mobie No(without spaces): 05427688679
e-Mail: benna1820@gmail.com
User created succesfully
------------------------------------------------------------
1-Create a new user
2-Display the user list
3-Display the warehouses
4-Display the products
5-Back
2
------------------------------------------------------------
1-
User ID: 201911001
Name: Ali Benna AGAC
Address: Selcuklu/Konya
Mobile No: 05427688679
e-Mail: benna1820@gmail.com

------------------------------------------------------------
1-Create a new user
2-Display the user list
3-Display the warehouses
4-Display the products
5-Back
```

5-) User Panel has five options. User can create new user and display some information.

ÇANKAYA ÜNİVERSİTESİ
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