

CSE 2025 – DATA STRUCTURES

PROJECT1 REPORT

a) Functions

-**Customer *createCustomerList()** : This function reads the customer.txt input file and constructs a customer Linked List accordingly.

-**Product *createProductList()** : This function reads the product.txt input file and constructs a Linked List that includes all the products.

-**void createBasketList(Customer *customer_list_start , Product *product_list_start)** : customer_list_start is a Customer pointer that points the head of the Customer List.

product_list_start is a Product pointer that points the head of the Product List.

This function reads the basket.txt input file. It creates a shopping record of customers according to input file. Creates baskets , fill them with products and adds them to the customer's Basket List.

b) Menu Items

1. Adding a Customer

```
-----
1  Ayhan      Altan
2  Bora       Cakir
3  Cenker     Saglam
4  Engin      Altan
5  Guler      Sevimli
6  Mustafa   Acar
7  Temel      Aktas
8  Yagmur     Ozden
-----
Name and surname of the Customer to be added: Ahmet Durmus
-----
1  Ayhan      Altan
2  Bora       Cakir
3  Cenker     Saglam
4  Engin      Altan
5  Guler      Sevimli
6  Mustafa   Acar
7  Temel      Aktas
8  Yagmur     Ozden
9  Ahmet      Durmus
-----
```

2. Add Basket

```
-----
1  Ayhan      Altan
2  Bora       Cakir
3  Cenker     Saglam
4  Guler      Sevimli
5  Mustafa   Acar
6  Temel     Aktas
7  Yagmur     Ozden
8  Ahmet     Durmus
-----
```

Please select a customer: 3

```
-----
1  Milk      Food      2.00
2  Butter    Food      10.00
3  Rice      Food      15.00
4  Salt      Food      5.00
5  Flour     Food      8.00
6  Tea       Food      16.00
7  Pasta     Food      2.00
8  Water     Food      1.00
9  Cola      Food      2.00
10 Coffee    Food      5.00
11 Egg       Food      10.00
12 Cheese    Food      14.00
13 Honey     Food      30.00
14 Chicken   Food      22.00
15 Tomatoes  Food      3.00
16 Potatoes  Food      3.00
17 Yoghurt   Food      5.00
18 Carrot    Food      3.00
19 IceCream  Food      12.00
20 Bread     Food      1.00
21 ToothBrush hygiene  5.00
22 ToothPaste hygiene  12.00
23 Napkin    hygiene  1.00
24 Detergent hygiene  35.00
25 Soap      hygiene  6.00
26 Shampoo  hygiene  15.00
27 Deodorant hygiene  12.00
-----
```

Please enter the product id you wish to add. Enter -1 to exit shopping: 5

-Product added to the basket : Flour

Please enter the product id you wish to add. Enter -1 to exit shopping: -1

3. Removing a Customer

```
-----  
1  Ayhan      Altan  
2  Bora       Cakir  
3  Cenker     Saglam  
4  Engin      Altan  
5  Guler      Sevimli  
6  Mustafa    Acar  
7  Temel      Aktas  
8  Yagmur     Ozden  
9  Ahmet      Durmus  
-----  
Please enter the id of the customer you wish to remove: 4  
-----  
1  Ayhan      Altan  
2  Bora       Cakir  
3  Cenker     Saglam  
4  Guler      Sevimli  
5  Mustafa    Acar  
6  Temel      Aktas  
7  Yagmur     Ozden  
8  Ahmet      Durmus  
-----
```

4. Listing the customers who bought a specific product

1	Milk	Food	2.00
2	Butter	Food	10.00
3	Rice	Food	15.00
4	Salt	Food	5.00
5	Flour	Food	8.00
6	Tea	Food	16.00
7	Pasta	Food	2.00
8	Water	Food	1.00
9	Cola	Food	2.00
10	Coffee	Food	5.00
11	Egg	Food	10.00
12	Cheese	Food	14.00
13	Honey	Food	30.00
14	Chicken	Food	22.00
15	Tomatoes	Food	3.00
16	Potatoes	Food	3.00
17	Yoghurt	Food	5.00
18	Carrot	Food	3.00
19	IceCream	Food	12.00
20	Bread	Food	1.00
21	ToothBrush	hygiene	5.00
22	ToothPaste	hygiene	12.00
23	Napkin	hygiene	1.00
24	Detergent	hygiene	35.00
25	Soap	hygiene	6.00
26	Shampoo	hygiene	15.00
27	Deodorant	hygiene	12.00

Please choose a product id: 2

-Customers who bought the product : Butter

1	Ayhan	Altan
6	Temel	Aktas

5. Listing the total shopping amounts of each customer

1	Ayhan	Altan	Shopping Amount: 3
2	Bora	Cakir	Shopping Amount: 2
3	Cenker	Saglam	Shopping Amount: 0 (!)
4	Guler	Sevimli	Shopping Amount: 0 (!)
5	Mustafa	Acar	Shopping Amount: 1
6	Temel	Aktas	Shopping Amount: 2
7	Yagmur	Ozden	Shopping Amount: 0 (!)
8	Ahmet	Durmus	Shopping Amount: 0 (!)

(!) Indicitates that customer has no shopping record.

c) Complete and incomplete parts of the project

-Error checking has not been implemented when entering inputs. So please try to enter expected inputs.

-Default input files location must be in the same directory with exe , and must be in the folder named "input" with names "customer.txt", "basket.txt" , "product.txt".