Soal Praktikum *Practicum Case* COMP6362 Data Structures	
Teknik Informatika *Computer Science*	**CS-COMP6362-Var03.4**
Periode Berlaku Mulai Semester Genap 2020/2021 ***Valid on*** *Even Semester Year* 2020/2021	**Revisi 00** *Revision 00*

Learning Outcomes

- Construct data structure in application

Topic

- Session 05 – Queue and Implementation

Subtopics

- Array Representation
- Linked Representation
- Operations

Soal
Case

Mrs. Debby is a Salon and Spa owner. She needs an application to record the customer's queue with the concept of single linked list. Here are the descriptions of the application:

- The application has a customer list view and which customers must be served first.
- Salon and Spa application consist 4 menus, which are:
  1. Customer List
  2. Add Curtomer
  3. Take Service
  4. Exit
- If user chooses **menu 1. Customer List**, then:
  - The application will show the list of customer's name, customer's age, type of service, and service cost.
- If user chooses **menu 2, Add Customer,** then:
  - The application will ask the user to input Customer's Name.
  - The application will ask the user to input Customer's Age.
  - The application will ask the user to input Service's Type. Validate that service's type must be "Hair Spa", "Hair Cut", and "Massage" with case sensitive.
  - The application will ask the user to input the Service Cost. Validate that damaged character must be between Rp 10.000 and Rp 500.000 and show the message "--- Add New Customer Success ---".

- If user chooses **menu 3. Take Service**, then:
  - If there is any data in the application, the application will delete the first data in the list and show the message "[Customer's Name] has been served.".
  - If there is no data in the application, then application will show the message "There is customer to serve.".
- If user chooses **menu 4. Exit**, then:
  - Delete all data.
  - Program ends.

Please run the EXE file to see the sample program.

Print Screen of Main Menu

```
        HAIR AND SPA
+++++++++++++++++++++++++++++

1. Customer List
2. Add Customer
3. Take Service
4. Exit

>> Input your choice :
```

Print Screen of Menu 1. Service List with no data

```
                    --- Salon and Spa ---

+----+---------------+-------+--------------------+--------------------+
| No.| Customer Name |  Age  |   Type of Service  |        Cost        |
+----+---------------+-------+--------------------+--------------------+
+----+---------------+-------------------+-----------+--------------------+
```

Print Screen of Menu 1. Service List with any data

```
                    --- Salon and Spa ---

+----+---------------+-------+--------------------+--------------------+
| No.| Customer Name |  Age  |   Type of Service  |        Cost        |
+----+---------------+-------+--------------------+--------------------+
| 1. | Nita          | 20    | Hair Cut           | 50000              |
| 2. | Alisya        | 25    | Hair Spa           | 100000             |
+----+---------------+-------+--------------------+--------------------+
```

Print Screen of Menu 2. Add Customer

```
Input Customer's Name: Nita

Input Age of Customer [1..100]: 20

Input Type of Service [Hair Spa/Hair Cut/Massage]: Hair Cut

Input Cost [10000..500000]: 50000


--- Add New Customer Success ---
```

```
Input Customer's Name: Alisya

Input Age of Customer [1..100]: 25

Input Type of Service [Hair Spa/Hair Cut/Massage]: Hair Spa

Input Cost [10000..500000]: 100000


--- Add New Customer Success ---
```

Print Screen of Menu 3. Take Service

```
Nita has been served.
```

Print Screen of Menu 1. Customer List after Menu 3. Take Service running and delete the first data in the list.

```
                    --- Salon and Spa ---

+----+--------------+--------+----------------------+----------------------+
| No.| Customer Name |  Age  |    Type of Service   |          Cost        |
+----+--------------+--------+----------------------+----------------------+
| 1. | Alisya        | 25    | Hair Spa             | 100000               |
+----+--------------+--------+----------------------+----------------------+
```

Print Screen of Menu 3. Take Service and if no other customer to serve

```
There is no Customer to serve.
```