


Soal Praktikum <i>Practicum Case</i>	 BINUS MALANG Institute of Creative Technology
COMP6362 Data Structures	
Teknik Informatika <i>Computer Science</i>	CS-COMP6362-Var02.1
Periode Berlaku Mulai Semester Genap 2019/2020 <i>Valid on Even Semester Year 2019/2020</i>	Revisi 01 <i>Revision 00</i>

Learning Outcomes

- Explain the concept of data structure and its usage in application
- Demonstrate how to create any learned data structure

Topic

- Session 04 - Stack

Sub Topics

- Stack Implementation Using Array of Struct
- Stack Implementation Using Linked List

Soal

Case

Mr. Janna is a manager from a computer shop. One day Mr. Janna wants to change the old stock administration system of his computer shop into a new system. So he asks you as a skillful programmer to make a program using a linked list concept. Here are the descriptions of the program:

- The program consists of 4 menus:
 1. Item List
 2. Add (PUSH) New Item
 3. Delete (POP) Recently Added Item
 4. Exit
- If user chooses **Item List**, then show **the item list** that contains **No, Name, Type, Quantity, and Price** of the items.
 - New Item added will be shown in the first row of the list.
- If user chooses **Add (PUSH) New Item**, then:
 - Ask user to input **the name of the new item** that he/she wants to add to the list. The length of it must be **between 3 and 20 characters**.
 - Ask user to input **the type of the new item**. The **type of the new item** must be **between "processor", "graphic card", or "memory"**.
 - Ask user to input **quantity of the new item**. The **quantity** must be **between 1 and 20**.
 - Ask user to input **the price of the new item**. The **price** must be **between \$1 and \$1000**.
 - If data has been successfully added, show the message **“--- Add New Item Success ---”**
- If user chooses **Delete (POP) Recently Added Item**, then:

- If there is any data in the application, the application will delete the first data in the list and show the message “The recently added item is being delete.”.
 - If there is no data in the application, then application will show the message “There are no item available.”.
- If user chooses **Exit**, then:
 - Delete all data in the linked list.
 - Program ends.

Please run the EXE file to see the sample program.

Print Screen of Main Menu

```
COOL COMPUTER ADMINISTRATOR
*****

1. Item List
2. Add <PUSH> New Item
3. Delete <POP> Recently Added Item
4. Exit

>> Input your choice :
```

Print Screen of Item List Menu (Menu ‘1’) with no data

```

          --- ITEM LIST ---

+-----+-----+-----+-----+
| No. | Name                | Type                | Quantity | Price |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

Print Screen of Item List Menu (Menu ‘1’) with any data

```

          --- ITEM LIST ---

+-----+-----+-----+-----+
| Desc | Name                | Type                | Quantity | Price |
+-----+-----+-----+-----+
| 1. | HIS 4670 ICEQ      | graphic card       | 4        | $ 795 |
| 2. | I5 650             | processor          | 17       | $ 180 |
+-----+-----+-----+-----+
```

Print Screen of Add (PUSH) New Item Menu (Menu '2')

```
Input Name of The New Item [3..20]: I5 650
Input Type of The New Item [processor/graphic card/memory]: processor
Input Quantity of The New Item [1..20]: 17
Input Price of The New Item [$1..$1000]: $180

--- Add New Item Success ---
```

```
Input Name of The New Item [3..20]: HIS 4670 ICEQ
Input Type of The New Item [processor/graphic card/memory]: graphic card
Input Quantity of The New Item [1..20]: 4
Input Price of The New Item [$1..$1000]: $795

--- Add New Item Success ---
```

Print Screen of Item List Menu (Menu '3')

```
The recently added item <HIS 4670 ICEQ - graphic card> is being delete.
```

```
The recently added item <I5 650 - processor> is being delete.
```

Print Screen of Item List Menu (Menu '3') and there are no item available.

```
There are no item available.
```