Soal Praktikum *Practicum Case* COMP6362 Data Structures	BINUS MALANG Institute of Creative Technology
Teknik Informatika *Computer Science*	CS-COMP6362-Var02.3
Periode Berlaku Mulai Semester Genap 2019/2020 ***Valid on*** *Even Semester Year* 2019/2020	**Revisi 00** *Revision 00*

Learning Outcomes
- Demonstrate how to create any learned data structure
- Analyze the usage of data structure in application

Topic
- Session 02 - Single Linked List

Sub Topics
- Pointer of Struct
- Malloc
- Free
- Operator
- Push Head
- Push Tail
- Push Middle
- Pop Head
- Pop Tail
- Pop Middle

Soal
Case

Mr. Ali Use is a seller of daily needs. Due to his rice stock system is not too good, he asks you to make a program using a stack with a concept of array of struct. Here are the descriptions of the program:
- Program always show rice stock in stack view.
- Program consists of 3 menus:
  1. Stock Rice Sack
  2. Sell Rice Sack
  3. Exit
- If user chooses **Stock Rice Sack**, then:
  - Ask user to input **type of rice**. Validate that **the type of the rice** must be **'long, 'medium', or 'short' with case sensitive**. Then add **the type of the rice** with **'grain'** automatically.
  - Ask user to input **weight of rice sack**. Validate that the weight must be **between 10 and 100 kilograms**.

  - Maximum data that can be stored in the rice stack is only **10**. If the data has reached **10**, then show the message **"--- The Rice Storage is Full ---"**
  - If data has been successfully inputted, show the message **"--- Add Rice Sack Success ---"**
- If user chooses **Sell Rice Sack,** then:
  - If there is no data in linked list, then show the message **"--- The Rice Storage is Empty ---"**.
  - If data is already in the linked list, the program will delete the last data in the stack and show the message **"--- Sell Rice Sack Success ---"**
- If user chooses **Exit**, then:
  - Delete all data.
  - Program ends.

Please run the EXE file to see the sample program.

Print Screen of Main Menu

```
BLUE RICE STOCK
^^^^^^^^^^^^^^^

 Rice Stock (STACK)



Option :
1. Stock Rice Sack
2. Sell Rice Sack
3. Exit

>> Input choice :
```

Print Screen of Stock Rice Sack Menu (Menu '1')

```
BLUE RICE STOCK
^^^^^^^^^^^^^^^

 Rice Stock (STACK)



Option :
1. Stock Rice Sack
2. Sell Rice Sack
3. Exit

>> Input choice : 1


Input Rice Type [long/medium/short] grain: long

Input Weight of The Rice Sack [10..100 kg(s)]: 10


--- Add Rice Sack Success ---
```

Print Screen of Main Menu after Doing Stock Rice Sack Menu

```
BLUE RICE STOCK
^^^^^^^^^^^^^^^

 Rice Stock (STACK)

 [ medium grain     |  33 kg(s) ] -> [top]
 [ short grain      |  20 kg(s) ]
 [ long grain       |  10 kg(s) ]


Option :
1. Stock Rice Sack
2. Sell Rice Sack
3. Exit

>> Input choice :
```

Print Screen of Sell Rice Sack Menu (Menu '2')

```
--- Sell Rice Sack Success ---
```

Print Screen of Sell Rice Sack Menu (Menu '2' but there is no data in linked list)

```
--- The Rice Storage is Empty ---
```