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 03 - Circular Linked List

Subtopics
- Representation
- Operation: Insert, delete, search, and sorting.

Soal
Case

Mr. Rahman is a new librarian at governance library. For his training, his supervisor request Mr. Rahman to collect the library visitors. Once, twice or several times, Mr. Rahman's supervisor needs to check the collected data. His supervisor is a conscientious person, so he often asks Mr. Rahman to arrange and sort the visitor's data every day. Mr. Rahman has an idea to use a computer for collecting the data and make easy for his task, but he has another problem, he is clueless. Mr. Rahman needs our help; therefore, we must help him by building him a data management software that has features as:

1. Collect the data.
2. Delete the data.
3. Sort the data.

- As a Computer Science students, we can realize those requirements using a Circular Linked List, it's because user doesn't know how much visitors came to the library every days..
- The visitor's data consist of 4 variables including:
  1. Name
  2. Address
  3. Age
  4. Registration number
- The program also consists of 3 available menus:
  1. Add the data.
  2. Delete the data.
  3. Show the data.

4. Exit.

- Print Screen of Main Menu:

```
        --- Governance Library ---
        =========================

Visitors Registration Menu :
1. Add the data
2. Delete the data
3. Show the data
4. Exit

Input choice :
```

- If user chooses **menu 1. Add the data**, then:
  - The program always inform user how much visitors came to the library for this day.
  - The program will ask the user to input the new Visitor's Name, Address, and Age.

```
Input choice : 1
_____

Total registration in this day : 2
Input Name      : Calysta
Input Address   : Araya Mansion
Input Age       : 15

_____
```

- If user chooses **menu 2. Delete the data**, then:
  - The program will ask the user to input the registration number they want to delete.

```
Input choice : 2
_____

Input the registration number to delete from the list :
```

- If user chooses **menu 3. Show the data,** then:
  - The program offering "Ascending" and "Descending" menu to sorting the data.

```
Input choice : 3
_____

Choose the sorting menu :
1. Ascending
2. Descending

Input choice :
```

If user chooses **menu 1. Ascending**, then:
  - The program will be offering a sorting menu by 2 items (**age** or **registration number**), user can choose one of the available.

```
Input choice : 1
_____

Choose the Ascending by :
1. Age
2. Registration Number

Input choice :
```

Or, if user chooses **menu 2. Descending**, then:
- The program also will be offering a sorting menu by 2 items (**age** or **registration number**), user can choose one of the available.

```
Input choice : 2
_____

Choose the Descending by :
1. Age
2. Registration Number

Input choice :
```

- For example, user chooses to **sort descending by age**, then:

```
_____

Total registration in this day : 3

_____
Name          : Alibaba
Address       : Jalan Bunga Leli
Age           : 26
Registration Number : 2
_____
Name          : Anita
Address       : Jalan Ikan Piranha
Age           : 25
Registration Number : 1
_____
Name          : Calysta
Address       : Araya Mansion
Age           : 15
Registration Number : 3
_____
```

- Remember, the program always inform user how much visitors came to the library for this day.

- If user chooses menu **4. Exit**, then:

```
        --- Governance Library ---
        ===========================
Visitors Registration Menu :
1. Add the data
2. Delete the data
3. Show the data
4. Exit

Input choice : 4

_____


Process returned 0 (0x0)   execution time : 129.668 s
Press any key to continue.
```