Learn-In-Depth

Be Professional in Embedded System

Assignment-1

Lesson-1

UNIT-4

Name : Ayat Mohamed

LIFO(Stack)

```
UART item no 0 = 1
UART item no 1 = 2
UART item no 2 = 3
UART item no 3 = 4
UART item no 4 = 5
[ERROR!!] UART stack is full,You can not add any item
[ERROR!!] UART stack is full,You can not add any item
UART deleted item 0 = 5
UART deleted item 1 = 4
UART deleted item 2 = 3
UART deleted item 3 = 2
UART deleted item 4 = 1
[ERROR!!] UART stack is empty ,You can not delete any item
[ERROR!!] UART stack is empty ,You can not delete any item
```

FIFO(Queue)

```
INITIALIZATION IS DONE :)
An item 1 has been added successfully
An item 2 has been added successfully
An item 3 has been added successfully
An item 4 has been added successfully
An item 5 has been added successfully
[ERROR!!] UART queue is full,You can not add any item
[ERROR!!] UART queue is full,You can not add any item
>>>>>>>>>QUEUE ELEMENTS<<<<<<<<<
Item no 0 = 1
Item no 1 = 2
Item no 2 = 3
Item no 3 = 4
Item no 4 = 5
>>>>>>>>>>>>>><<<<<<<<<<<<<<
An item 1 has been deleted successfully
An item 2 has been deleted successfully
An item 3 has been deleted successfully
An item 4 has been deleted successfully
An item 5 has been deleted successfully
[ERROR!!] UART queue is empty,You can not delete any item
>>>>>Queue is Empty ,no elements to print<<<<<
```

School using Linked_list

- Add students

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 1
Enter The Student ID : 1
Enter The Student FullName : ayat mohamed
Enter The Student Height : 160
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 1
```

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 1
Enter The Student ID : 2
Enter The Student FullName : aya
Enter The Student Height : 150
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 1
Enter The Student ID : 3
Enter The Student FullName : bassant
Enter The Student Height : 155
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
```

- View all students

```
>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students|
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 3
Student No 1 :
ID : 1
NAME : ayat mohamed
HEIGHT : 160.00
---------------------------------
Student No 2 :
ID : 2
NAME : aya
HEIGHT : 150.00
---------------------------------
Student No 3 :
ID : 3
NAME : bassant
HEIGHT : 155.00
```

- Get nth students from the first

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 5
Enter the student no you want get it :2
ID : 2
NAME : aya
HEIGHT : 150.00
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 6
```

- Get nth students from the first

```
Student_Llinked_List.exe [C/C++ Application]  [pid: 44]
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 6
Enter the student no you want get it :3
ID : 1
NAME : ayat mohamed
HEIGHT : 160.00
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 7
Number of students = 3
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
```

- Get length of linked list & delete a specific item

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1)  :  to add_student
Choose(2)  :  to delete_student
Choose(3)  :  to view_all_students
Choose(4)  :  to Delete_all_students
Choose(5)  :  to Get_Nth_Student_From_First
Choose(6)  :  to Get_Nth_Student_From_End
Choose(7)  :  to Get_Student_Linked_List_length
Choose(8)  :  to Get_Middle_Student
Choose(9)  :  to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 7
Number of students = 3
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1)  :  to add_student
Choose(2)  :  to delete_student
Choose(3)  :  to view_all_students
Choose(4)  :  to Delete_all_students
Choose(5)  :  to Get_Nth_Student_From_First
Choose(6)  :  to Get_Nth_Student_From_End
Choose(7)  :  to Get_Student_Linked_List_length
Choose(8)  :  to Get_Middle_Student
Choose(9)  :  to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 2
Enter the ID you want delete it :2
```

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1)  :  to add_student
Choose(2)  :  to delete_student
Choose(3)  :  to view_all_students
Choose(4)  :  to Delete_all_students
Choose(5)  :  to Get_Nth_Student_From_First
Choose(6)  :  to Get_Nth_Student_From_End
Choose(7)  :  to Get_Student_Linked_List_length
Choose(8)  :  to Get_Middle_Student
Choose(9)  :  to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 3
Student No 1 :
ID : 1
NAME : ayat mohamed
HEIGHT : 160.00
----------------------------------
Student No 2 :
ID : 3
NAME : bassant
HEIGHT : 155.00
----------------------------------
```

- Get middle student

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 8
the list is even , the second middle element :
ID : 3
NAME : bassant
HEIGHT : 155.00
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
```

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 1
Enter The Student ID : 3
Enter The Student FullName : alaa
Enter The Student Height : 160
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
```

- Delete all students in the list

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 8
ID : 3
NAME : bassant
HEIGHT : 155.00
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 4
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
```

```
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Choose from of the one following options
Choose(1) : to add_student
Choose(2) : to delete_student
Choose(3) : to view_all_students
Choose(4) : to Delete_all_students
Choose(5) : to Get_Nth_Student_From_First
Choose(6) : to Get_Nth_Student_From_End
Choose(7) : to Get_Student_Linked_List_length
Choose(8) : to Get_Middle_Student
Choose(9) : to Exit
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
Enter your option : 7
[ERROR!!] LIST IS EMPTY
Number of students = 0
```