

DATA STRUCTURES AND ALGORITHMS

PRACTICE No.3

Exercises

1. Write C program for array based queue.
All elements of the queue must be stored in the first n positions of the array.
2. Write C Program to check is string is palindrome using stack.
3. Write C Program to Check if Expression is correctly Parenthesized.
Parenthesis must be put into the stack.
Example $(a+b)*(c+d)$

Homework

No.1 Write C Program to Implement Priority Queue to Add and Delete Elements.

Priority queue is an abstract data type which is like a regular queue or stack data structure, but where additionally each element has a “priority” associated with it. In a priority queue, an element with high priority is served before an element with low priority. If two elements have the same priority, they are served according to their order in the queue.

No. 2 Two words are given: one is regular while second word is shifted by several positions to the right. You must check if these two words are the same (use queue or deque).
Example: *Attention; tionAtten*

Homework

No.3 Assume a **array** has the following configuration:

{ 2; 23; 15; 5; 9 }. Write a C code to delete the element with value 15, add new element 17, replace element 23 with new one 44.

No.4 Assume a **linked list** has the following configuration:

{ 2; 23; 15; 5; 9 }. Write a C code to delete the element with value 15 and to add new element 17, replace element 23 with new one 44.

No.5 Write a C code to implement array based stack. Use menu as user interface.