# Rajalakshmi Engineering College

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Branch: REC

Department: I AI & ML FA

Batch: 2028

Degree: B.E - AI & ML



## NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 2\_COD\_Question 2

Attempt : 1 Total Mark : 10 Marks Obtained : 10

Section 1: Coding

#### 1. Problem Statement

Moniksha, a chess coach organizing a tournament, needs a program to manage participant IDs efficiently. The program maintains a doubly linked list of IDs and offers two functions: Append to add IDs as students register, and Print Maximum ID to identify the highest ID for administrative tasks.

This tool streamlines tournament organization, allowing Moniksha to focus on coaching her students effectively.

### **Input Format**

The first line consists of an integer n, representing the number of participant IDs to be added.

The second line consists of n space-separated integers representing the participant IDs.

The output displays a single integer, representing the maximum participant ID.

If the list is empty, the output prints "Empty list!".

Refer to the sample output for the formatting specifications.

### Sample Test Case

```
Input: 3
    163 137 155
    Output: 163
Answer
    #include<stdio.h>
    #include<stdlib.h>
    struct Node{
      int id;
      struct Node* next;
      struct Node* prev;
    };
    void appendNode(struct Node** head,int id){
      struct Node* newNode;
      newNode = (struct Node*)malloc(sizeof(struct Node));
      newNode -> id=id:
      newNode -> next = NULL;
      newNode -> prev = NULL;
      if(*head == NULL){
        *head = newNode;
        return;
      struct Node* temp = *head;
temp = temp->next;
      while(temp->next != NULL){
```

```
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newNode -> prev = temp;
    void maxid(struct Node* head){
      if(head == NULL){
        printf("Empty list!");
      }
      int max = head -> id:
      struct Node* temp = head -> next;
      while(temp != NULL){
        if(temp->id>max){
      max = temp->id;
        temp = temp->next;
      printf("%d\n",max);
    }
    int main(){
      int n;
      scanf("%d",&n);
      if(n==0){
        printf("Empty list!");
struct Node* head = NULL;
        return 0;
      for(int i=0;i<n;i++){
        int id;
        scanf("%d",&id);
        appendNode(&head,id);
      maxid(head);
      struct Node* temp;
      while(head != NULL){
        temp = head;
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       head = head->next;
       free(temp);
```

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return 0; Marks : 10/10 Status: Correct 24/50/1062