WELCOME

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI.

GOVERNMENT POLYTECHNIC KARAD

ACADEMIC YEAR 2022-2023

PROGRAM- COMPUTER ENGINEERING

COURSE- Data Structure Using C (22317)

SEMESTER- CO3I

A Micro Project Report On

"CRICKET SCORE DISPLAY"

Under The Guidence Of

Mrs . A.S.Paike

CERTIFICATE

This is to certify that,

Sr.No	Roll No	Enrollment No	Name
1	1251	2100100053	Pratik Pramod Shejwal.
2	1261	2100100063	Riya Sunil Kharade.
3	1265	2100100067	Purva Murlidhar Jadhav.
4	1272	2200100658	Anuja Jayant Jadhav.

Have successfully completed microproject on "**Cricket Score Display**" Of the subject "Data Structure USing C (22317)" prescribed by Maharashtra state board of technical education for Third semester [Computer] during the year 2022-23.

Prof. Patil. S. B.
Head of the department

Mrs. Paike A.S.
(Project Guide)

ACKNOWLEDGEMENT

We take it is an opportunity to thank all those who have directly and indirectly inspired, directed and assisted us towards successful completion of this microproject report.

We express our sincere thanks to the principal **Dr. R. K. Patil** for lecture allowed to submit this report as part of our academic learning our sincere thanks to **Mrs. A.S.Paike.**

In "**Data Structure Using C**" department of COMPUTER ENGINEERING, Government Polytechnic karad for this encouragement throughout this project report and guideline in designing and working out this project.

We are also grateful to learn of "Data Structure Using c(22317)" for their highly encouraging and co-operative attitude. We express our sense of gratitude towards our friend and parents for their constant moral support during microproject report.

Place: Government polytechnic karad

Date: 08/12/2022

Yours Sincerely,

1251-Pratik Pramod Shejwal
1261-Riya Sunil Kharade
1263-Purva Murlidhar Jadhav
1272-Anuja Jayant Jadhav

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MICROPROJECT REPORT

TITLE:-

“CRICKET SCORE DISPLAY”

0.1 RATIONALE :-

The Cricket Score Display project is a simple application written in the C programming Language. It employs file management to store data like as runs, balls and among other things. The application may show runs, balls, batsman and bowler name, batsman and bowler jersey number and so on.

0.2 AIMS/BENEFITS OF THE MICRO-PROJECT :-

- ✓ To develop a program logic.
- ✓ To learn how to create linked list.
- ✓ To get a chance to improve your C skills.
- ✓ To develop a complete program and execute that program.

0.3COURSE OUTCOMES :-

- ✓ CO a Perform basic Operations On Array.
- ✓ CO.b Apply Diffterent Searching and Sorting Operations.
- ✓ CO.d Implement basic operations on Linked List

0.4LITERATURE REVIEW :-

1.We have google foe search engine to complete this micro-project,website –

a) https://www.javatpoint.com/singly-linked-list
b) https://examradar.com/linked-list-concepts/

2.We refered Principles Of Data Structure Using C And C++ book by Vinu V Das.
3.While doing this project, we faced some difficulties but our teacher helps us to complete our micro-project.

0.5 ACTUAL METHODOLOGY FOLLOWED :-

- ✓ First, we decide the title of our microproject.
- ✓ We select "Cricket Score Display".
- ✓ Then we discussed on the topic.
- ✓ After selection of topic we made proposal.
- ✓ Then we distribute work with our team members.
- ✓ After distribution, group members started to search on their points.
- ✓ We collect information from internet and we also Used reference books.
  After successful analysis we will commit our final analytics report along with presentation.

0.6 ACTUAL RESOURCES USED :-

Sr.No	Resources used	Specifications	Quantity
1	Computer system	HP Pavilion, i5 11^{th} Gen, 8gb RAM.	1
2	Software	Version-Dev C++	1
3	Microsoft Office	Ms office-2019	-

0.7 APPLICATIONS OF THIS MICRO-PROJECT :-

1. Linked lists are used to implement stacks, queues, graphs, etc.
2. Linked lists is used to implement the hash tables.
3. Linked list is used to represent the sparse matrix.
4. For manipulation of polynomial, we use linked list.

0.8 INTRODUCTION :-

● Linked List:

-Linked list is used to represent linear data structure.
-Linked list is a collection of nodes, every node consists of two fields.

● There are four types of linked list:

1. Singly Linked List
2. Circular Linked List
3. Doubly Linked List
4. Doubly Circular Linked List.

●In our micro-project we use singly linked list.

●Singly Linked List:

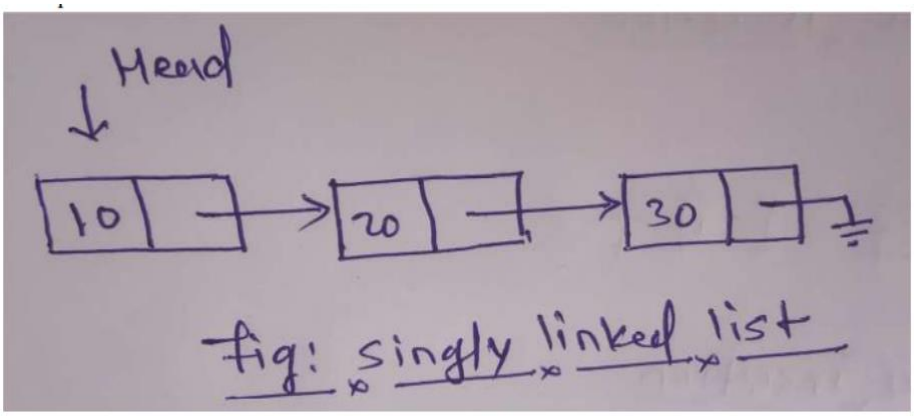
- Singly linked list is one of the type of linked list
-Singly linked list is a collection of nodes and every node consists of two fields.

Data field - It contains information of data element.
Next field - It is a pointer variable which contains address of next node.

Fig. Single Node structure

- In singly linked list, we can move only in forward direction.
-We cannot move in backward direction.

- Example:



● **Advantages of Singly linked list:**

1. Accessing the elements in forward direction is easier.
2. Easy to perform insertion and deletion operation on SLL.

● **Disadvantages of Singly linked list:**

1.We cannot access the node in backward direction.
2. Accessing of node is a time consuming..

●**Basic Linked List Operations:**

1.Creation:
This operation is used to create a node in the linked list.
2.Insertion:
This operation is used to insert a new node in the linked list.
3.Deletion:
This operation is used to delete node from the linked list.
4.Display:
This operation is used to print all nodes information field.
5.Searching:
To search a specific element in given linked list.
6.Count:
To count number of nodes present in list.

●**Creating a Singly Linked List:**

- To create a linked list, we will create a node one by one and add them to the end of the linked list.
-All these nodes are created by using the structure, pointer and dynamic memory allocation function malloc.
-Below structure in 'C' can be used to define the node.

```
typedef struct node
 {
    int data;
    struct node *next;
 } node;
```

-Below steps are used to create a single node of SLL.

1. node *p;
2. p=(node*)malloc(sizeof(node));
3. p->data=x; 4. p->next=NULL;

● **C function for creation of SLL**

```
node* create(int n)
{
        node *head,*p;
         int x,i;
         printf("\nEnter data:");
         scanf("%d",&x);
         head=(node*)malloc(sizeof(node));
         head->data=x;
         head->next=NULL;
         p=head;
         for(i=2;i<=n;i++)
         {
                  printf("\nEnter data:");
                  scanf("%d",&x);
                  p->next=(node*)malloc(sizeof(node));
                  p=p->next;
                  p->data=x;
                  p->next=NULL;
         }
         return(head);
}
```

●**Insertion:**

In a single linked list, the insertion operation can be performed in three ways. They are as follows...

1. Inserting At Beginning of the list
2. Inserting At End of the list
3. Inserting At Middle of the list Inserting At Beginning of the list:

- In this operation, new node can be created and added at the beginning of a list.
- New node points to existing first node and after that make new node as head node.
- Algorithm:

Inserting At Beginning of the list:

1. Start
2. Allocates memory for the new node q.
   q=(node*)malloc(sizeof(node));
3. Assign data to the data field and NULL to the next field of the new node q.
   q->data=x;
   q->next=NULL;
4. Check whether linked list is Empty.
   if (head = = NULL) then
   Set head = q and goto step 6.
5. Otherwise, set q→next = head and head = q.
6. Stop

-

●**Deletion:**

-In a single linked list, the deletion operation can be performed in three ways.
-They are as follows...

1. Deleting At Beginning of the list
2. Deleting At End of the list
3. Deleting At Middle of the list.

-Algorithm:

Deleting at Beginning of the list:

1. Start
2. Create temporary node pointer variable q.
3. Check whether linked list is Empty.

   if (head = = NULL) then

   Display 'List is Empty!!! Deletion is not possible' and goto step 7.
4. Assign address of first node to q i.e q=head.
5. Move head node to next node i.e head=head->next.
6. Delete q node i.e free(q).
7. Stop

●**Display:**

-Algorithm:

1. Start
2. Check if the linked list is empty or not.
   if head = = NULL then

   Display "Linked List is Empty" and goto step 5.

   else

   Goto step 3.
3. Set the head node to the temporary node p.

   p=head;
4. Traverse till the last node.

   while(p != NULL) then
   Display p->data;
   p=p->next;
5. Stop

●**Searching :**

-Algorithm:

1. Start
2. Set flag variable to 0.
3. Read key element from user.
4. Check if the linked list is empty or not.
   if head = = NULL then

   Display “Linked List is Empty” and goto step 7.

   else

   goto step 4.

4. Set the head node to the temporary node p.

   p=head;

5. while(p ! = NULL) then

   if(key = = p->data) then

   Set flag to 1 and goto step 6

   Otherwise

   p=->next.

6. if flag = = 1 then
   Display “Element is found”
   else
   Display “ Element is not found”
7. Stop

●**Count:**

- Algorithm:

1. Start
2. Set count variable to 0.
3. Chcck if thc linkcd list is cmpty or not.
   if head = = NULL then

   Display “Linked List is Empty” and goto step 7.

   else

   goto step 4.

4. Set the head node to the temporary node p.

   p=head;

5. Traverse till the last node.

   while(p != NULL) then
   Increment the count variable by 1 i.e count++;
   p=p->next;
6. Display the total count of nodes.
7. Stop

0.9. OUTPUT OF MICRO-PROJECT:

```
======================================================================

********************CRICKET SCORE DISPLAY*******************

======================================================================
----------------------------------------------------------------------
        1 To Insert Player Details
        2 To Search For Player Details
        3 To Delete Player Details
        4 To Update Player Details
        5 To Display All Player Details
        6 To Exit From The Code
----------------------------------------------------------------------

Enter Your  Choice: 1

----------------------------------------------------------------------
Enter Player Jersey Number: 210

Enter Player Name: Rohit_Sharma

Enter Runs Scored By Batsman: 100

Enter Balls Played By Batsman: 67

----------------------------------------------------------
```

```
----------------------------------------------------------

Enter Your  Choice: 2

----------------------------------------------------------------------
Enter Jersey number to search: 102

------------------------------------------------------------
Search with jersey number 102 Found !!!
SEARCH SUCESSFULLY COMPLETED!!!

Jersey Number            : 102
Player Name              : MS_Dhoni
Runs Scored By Batsman: 150
Balls Played By Batsman : 75.0000
----------------------------------------------------------

Enter Your  Choice: 3

----------------------------------------------------------------------
Enter Player Number to update: 210

Record with jersey number 210 Found !!!

Enter New Player Name: Virat_Kohli

Enter new jersey number: 18

Enter balls : 100
```

```
Enter Your  Choice: 2

-----------------------------------------------------------------------
Enter Jersey number to search: 102

-----------------------------------------------------------------
Search with jersey number 102 Found !!!
SEARCH SUCESSFULLY COMPLETED!!!

Jersey Number            : 102
Player Name              : MS_Dhoni
Runs Scored By Batsman: 150
Balls Played By Batsman  : 75.0000
-----------------------------------------------------

Enter Your  Choice: 3

-----------------------------------------------------------------------
Enter Player Number to update: 210

Record with jersey number 210 Found !!!

Enter New Player Name: Virat_Kohli

Enter new jersey number: 18

Enter balls : 100

Updation Successful!!!
```

```
Enter Your  Choice: 4

-----------------------------------------------------------------------
Enter jersey number to delete: 12

-----------------------------------------------------------------
Record with Jersey Number 12 Found !!!

Record Successfully Deleted !!!

-----------------------------------------------------

Enter Your  Choice: 5

-----------------------------------------------------------------------
*********************************************
******** DISPLAY All PLAYER INFORFORMATION********
*********************************************
JERSEY NUMBER            : 102
PLAYER NAME              : MS_Dhoni
RUNS SCORED BY BATSMAN   : 150
BALLS PLAYED BY BATSMAN  : 75.0000
-----------------------------------------------------------------
*********************************************
******** DISPLAY All PLAYER INFORFORMATION********
*********************************************
JERSEY NUMBER            : 210
PLAYER NAME              : Virat_Kohli
RUNS SCORED BY BATSMAN   : 18
BALLS PLAYED BY BATSMAN  : 100.0000
-----------------------------------------------------------------
Enter Your  Choice:
```

```
-----------------------------------------------------------------------

Enter Your  Choice: 6

-----------------------------------------------------------------------
*********THANKS FOR USING OUR SOFTWARE**********

Enter Your  Choice: 0

-----------------------------------------------------------------------
Please Enter Valid Choice!!!!
```

10. CONCLUSION:

1) Student report card system is very simple project that helps us to store report cards of students for long time.
2) By completing this project we are able to use all function in header files used in project easily.
3)We understand use of classes and object made project simple.
4) By this project we understand how to use file handling in C++.

11. Skill Developed:

1) To present specific topic professionally.
2) To work with unity .
3) To increase our thinking .
4) To work with team with proper unity.
5) To increase our thinking and reach at the depth of the concept.

THANK YOU