Linked list : WEEK - 3 LAB - 3

```
#include <stdio.h>
#include <stdlib.h>
void push();
void append();
void display();
void insert_at_pos();
struct node
{
    int data;
    struct node *next;
};
struct node *head = NULL;

void main()
{
    int ch;
    while(ch!=6)
    {
      printf("Enter the choice \n 1. insert from \n
       2. Insert at end \n 3. Insert at particular
       pos \n 4. Display \n 5. Exit \n");
      &
      while(ch!=5)
      {
        printf("Enter choice");
        scanf("%d", &ch);
        switch(ch)
        {
            case 1: push();
                    break;
```

```
        case 2: append();
                break;
        case 3: insert_at_pos();
                break;
        case 4: display();
                break;
        case 5: exit(0);
      }
    }
  }
void push()
{
    int data;
    struct node * new_node;
    new_node = struct node* malloc (sizeof(struct node));
    printf("Enter the data to be inserted \n");
    scanf("%d", &data);
    new_node -> data = data;
    new_node -> ~~data~~ next = head;
     head = new_node;
}
void append()
{
    int data;
    struct node * last = head;
    struct node * new_node;
    new_node = struct node * malloc (sizeof(struct
                                          node));
    printf("Enter the data \n");
    if (head == NULL)
    {
        new_node = head;
    }
```

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else
{
    while (last -> next != NULL)
    last = last -> next;
    last = new_node;
}
}.

void insert_at_pos()
{
    int data;
    int pos;
    struct node *temp = head;
    struct node * new_node;
    new_node = struct node* malloc (sizeof (struct
                                    node));
    printf ("Enter the data to be inserted \n");
    scanf ("%d", &data);
    new_node -> data = data;
    printf (" enter the position \n");
    scanf ("%d", &pos);
    if (pos == 1)
    { new_node -> next = temp;
      new_node = head;
    }
    else
    {
        for (int i = 2; i < pos - 1; i++)
        {
            temp = temp -> next;
            new_node -> next = temp -> next;
            temp -> next = new_node;
            new_node -> next = NULL;
```

Date / /
Page

```
        }
    }
}.
void display()
{
    struct node *p = head;
    printf("The list elements \n");
    while (p->next != NULL)
    {
        printf("%d", p->data);
        p = p->next;
    }
}.
```

Output :

Enter the choice
1. Insert from beginning
2. Insert at end
3. Insert at particular pos
4. Display.
5. Exit
Enter the choice.
1
Enter the element to be inserted
2.
Enter the choice.
1.
Enter the element to be inserted
4.
Enter the choice
4.
2
4

11/1/24