WEEK – 6

LINKED LIST(INSERTION)

```
#include <stdio.h>
#include <stdlib.h>

struct node
{
   int data;
   struct node *next;
};
struct node *head;

void begin_insert()
{
   struct node *ptr;
   int item;
   ptr=(struct node*)malloc(sizeof(struct node));
   if(ptr==NULL)
      printf("Overflow\n");
   else
   {
    printf("Enter value \n");
    scanf("%d",&item);
    ptr->data=item;
    ptr->next=head;
    head=ptr;
    printf("Node inserted \n");
   }
}
```

```
void display()
{
    struct node *ptr;
    ptr=head;
    if(ptr==NULL)
        printf("Nothing to print");
    else
    {

        while(ptr!=NULL)
        {
            printf("\n %d", ptr->data);
            ptr=ptr->next;
        }
    }
}

void end_insert()
{
    struct node *ptr, *temp;
    int item;
    ptr=(struct node *)malloc(sizeof(struct node));
    if(ptr==NULL)
    printf("Overflow \n");
    else
    {
     printf("Enter value \n");
     scanf("%d",&item);
     ptr->data=item;
        if(head==NULL)
        {
            head=ptr;
            ptr->next=NULL;
        }
        else
        {
            temp=head;
            while(temp->next!=NULL)
                temp=temp->next;
            temp->next=ptr;
            ptr->next=NULL;
        }
    }
}

void ran_insert()
{
    int i,n,item;
    struct node *ptr,*temp;
    ptr=(struct node *)malloc(sizeof(struct node));
    if(ptr==NULL)
    printf("Overflow \n");
    else
    {
        printf("Enter value \n");
        scanf("%d",&item);
        ptr->data=item;
        printf("Enter location at which you want to enter ");
        scanf("%d",&n);
        struct node *temp=head;
        for(i=1;i<n;i++)
        {
            temp=temp->next;
            if(temp==NULL)
            {
                printf("\nCan't insert \n");
                return;
            }
        }
        ptr->next=temp->next;
        temp->next=ptr;
        printf("\nNode inserted \n");
    }
}

void main()
{
    int ch;
    while(ch !=5)
    {
        printf("\n \n 1.Insert at the beginning \n 2.Insert at the end \n 3.To insert at random position\n
4.Display\n");
        printf("Enter your choice");

        scanf("%d",&ch);
        switch(ch)
        {
            case 1:
                {
                    begin_insert();
                    break;
                }
            case 2:
                {
                    end_insert();
                    break;
                }
            case 3:
                {
                    ran_insert();
                    break;
                }
            case 4:
                {
                    display();
                    break;
                }
            case 5: exit(0);
        }
    }
}
```