

Experiment No: 5

Code:

```
#include<stdio.h>

#include<stdlib.h>

struct node

{

    int data;

    struct node *next;

};

struct node *head;

void begininsert ();

void lastinsert ();

void display ();

void main()

{

    int choice = 0;

    while(choice!=9)

    {

        printf("\nMain Menu\n");

        printf("\nChoose one option from the following list\n");

        printf("\n1.Insert in beginning\n2.Insert at last\n3.Display\n4.Exit\n");

        printf("\nEnter your choice:\n");

        scanf("%d",&choice);

        switch (choice)

        {

            case 1:

                begininsert();

                break;

            case 2:

                lastinsert();
```

```

        break;

        case 3:

            display();

            break;

        case 4:

            exit(0);

            break;

        default:

            printf("\nPlease enter valid choice");

    }

}

}

void beginsert()
{
    struct node *ptr;

    int item;

    ptr=(struct node*) malloc(sizeof(struct node*));

    if(ptr==NULL)
    {
        printf("\nOverflow");
    }
    else
    {
        printf("\nEnter value\n");

        scanf("%d",&item);

        ptr->data=item;

        ptr->next=head;

        head=ptr;

        printf("\nNode inserted");

    }

}

```

```
void lastinsert()
{
    struct node*ptr,*temp;

    int item;

    ptr=(struct node*)malloc(sizeof(struct node*));

    if(ptr==NULL)
    {
        printf("\nOVERFLOW");
    }
    else
    {
        printf("\nEnter Value:");

        scanf("%d",&item);

        ptr->data=item;

        if(head==NULL)
        {
            ptr->next=NULL;

            head=ptr;

            printf("\nNode inserted");
        }
        else
        {
            temp=head;

            while(temp-> next!=NULL)
            {
                temp=temp->next;
            }

            temp->next=ptr;

            ptr->next=NULL;

            printf("\nNode inserted");
        }
    }
}
```

```

    }

}

void display()
{
    struct node*ptr;
    ptr=head;
    if(ptr==NULL)
    {
        printf("Nothing to print");
    }
    else
    {
        printf("\nPrinting values...\n");
        while(ptr!=NULL)
        {
            printf("%d\n",ptr->data);
            ptr=ptr->next;
        }
    }
}

```

Output:

```

Main Menu

Choose one option from the following list

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:
1

Enter value
4

Node inserted
Main Menu

Choose one option from the following list

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:
1

Enter value
5

Node inserted
Main Menu

Choose one option from the following list

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:

```

```

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:
3

Printing values...
5
4

Main Menu

Choose one option from the following list

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:
2

Enter Value:6

Node inserted
Main Menu

Choose one option from the following list

1.Insert in beginning
2.Insert at last
3.Display
4.Exit

Enter your choice:
3

Printing values...
5
4
6

```

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