week-5

```
#include<stdio.h>
#include<stdlib.h>
 Void create();
 void display();
 void insert_at_node(int);
 void insert_before();
 struct node
{
 int data;
 struct node *next;
};
struct node *head=NULL;
 int main()
{
 int choice, ele;
 do
{
printf("\n1. create \n2. Display \n3. Insert before
                \n4. Insert at particular position
                \n5. Exit\n");
printf("\n Enter your choice: ");
scanf("%d", &choice);
switch(choice)
{
 case 1: create(); break;
 case 2: display(); break;
 case 3: insert_before();
 break;
 case 4: printf("enter the position where new element has to be
                inserted\n");
 scanf("%d", &ele);
 insert_at_node(ele);
  break;
```

```
default : exit (0);

}
}while (choice==1 || choice==2 || choice==3 || choice==4);

return 0;
}
void create()
{
struct node *newnode, *temp;
int item;
Newnode = (struct node *) malloc (sizeof (struct node));

printf(" Enter the data:");
scanf ("%d", &item);
newnode -> data = item;
 if (head==NULL)
{
 newnode->next= NULL;
 head= newnode;
 printf("node created\n");
}
else
{
temp=head;
while(temp-> next!=NULL)
{
 temp= temp->next;
}
 temp->next = newnode;
 newnode->next = NULL;
 printf(" node created\n");
}
}
 void insert_before()
 {
```

```
struct node *newnode;
int ele;
printf("Enter the element: ");
scanf("%d", &ele);
newnode = (struct node *) malloc (sizeof(struct node));
newnode -> data = ele;
newnode -> next = head;
head = newnode;
}
void insert_at_node(int a)
{
struct node *newnode, *temp;
int i=1, ele;
printf("Enter the element : ");
scanf("%d", &ele);
temp = head;
newnode = (struct node *) malloc (sizeof(struct node));
newnode -> data = ele;
while(i<(a-1))
{
temp = temp -> next;
i++;
}
newnode -> next = temp -> next;
temp -> next = newnode;
}
newnode -> next = newnode;
}
void display()
{
struct node *ptr = NULL;
ptr = head;
```

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