Linked List

```
#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;
    printf("\nEnter the choice\n1.Insert from beginning\n2.Insert at end\n3.Insert at particular position\n4.Display\n5.Exit\n");
   while(ch!=6)
   {
      printf("Enter the choice\n");
       scanf("%d",&ch);
      switch(ch)
      {
         case 1:
             push();
            break;
         case 2:
             append();
             break;
```

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            case 3:
                insert_at_pos();
                 break;
            case 4:
                display();
                break;
            case 5:exit(0);
            default: printf("Invalid choise");
            break;
        }
    }
}

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->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");
    scanf("%d",&data);
    new_node->data=data;
    new_node->next=NULL;
    if(head==NULL)
    {
       head=new_node;
       return;
    }
    while(last->next!=NULL)
    {
    last=last->next;
    }
    last->next=new_node;
}

void insert_at_pos()
{
    int data,i;
    int pos;
    struct node *temp=head;
    struct node *new_node;
    struct node *temp1;
    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)
    {
```

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        new_node->next=temp;
        head=new_node;
    }
    else
    {
        for(i=2;i<pos-1;i++)
        {
            temp=temp->next;
        }
         Temp1=temp->next;
         new_node->next=temp1;
         temp->next=new_node;
    }
}

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

Output:

```
Enter the choice
1.Insert from beginning
2.Insert at end
3.Insert at particular position
4.Display
5.Exit
Enter the choice
1
Enter the data to be inserted
1
Enter the choice
2
Enter the data
2
Enter the choice
3
Enter the data to be inserted
3
enter the position
2
Enter the choice
4
The queue element
1->3->2->Enter the choice
5


...Program finished with exit code 0
Press ENTER to exit console.
```