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

typedef struct Node {
    int data;
    struct Node *next;
}Node;

void InsertAtBeginning( Node **head_ref,int new_data);
void InsertAtEnd( Node **head_ref,int new_data);
void Insert( Node **prev_node,int new_data,int pos);
void PrintList(Node * next);

void InsertAtBeginning( Node **head_ref,int new_data)
{
    Node *new_node=(struct Node*)malloc(sizeof( Node));
    new_node->data=new_data;
    new_node->next=*head_ref;
    *head_ref=new_node;
}

void InsertAtEnd(Node **head_ref,int new_data)
{
    Node *new_node=(struct Node*)malloc(sizeof( Node));
    Node *last=*head_ref;
    new_node->data=new_data;
    new_node->next=NULL;
    if (*head_ref==NULL)
    {
        *head_ref=new_node;
        return ;
    }
    while (last->next!=NULL)
        last=last->next;
    last->next=new_node;
}

void Insert(Node **head_ref,int new_data,int pos)
{
    if (*head_ref ==NULL)
    {
        printf("Cannot be NULL\n");
        return;
    }
    Node *temp = *head_ref;
    Node *newNode = ( Node *) malloc (sizeof ( Node));
    newNode->data = new_data;
    newNode->next = NULL;

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while (--pos>0)
{
    temp = temp->next;
}
newNode->next = temp->next;
temp->next = newNode;
}

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void PrintList(Node *node)
{
    while (node!=NULL)
    {
        printf("%d\n",node->data);
        node=node->next;
    }
}

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int main()
{
    int ch,new,pos;
    Node* head=NULL;
    while(ch!=5)
    {
        printf("Menu\n");
        printf("1.Insert at beginning\n");
        printf("2.Insert at a specific position\n");
        printf("3.Insert at end\n");
        printf("4.Display linked list\n");
        printf("5.Exit\n");
        printf("Enter your choice\n");
        scanf("%d",&ch);
        switch(ch)
        {
            case 1:
            {
                printf("Enter the data you want to insert at beginning\n");
                scanf("%d",&new);
                InsertAtBeginning(&head,new);
                break;
            }
            case 2:
            {
                printf("Enter the data and position at which you want to insert \n");
                scanf("%d%d",&new,&pos);
                Insert(&head,new,pos);
                break;
            }
            case 3:
            {
                printf("Enter the data you want to insert at end\n");

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scanf("%d",&new);
InsertAtEnd(&head,new);
break;
}
case 4:
{
    printf("Created linked list is:\n");
    PrintList(head);
    break;
}
case 5:
{
    return 0;
    break;
}
case 6:
{
    printf("Invalid data!");
    break;
}
}
return 0;
}
```

```
Menu
1.Insert at beginning
2.Insert at a specific position
3.Insert at end
4.Display linked list
5.Exit
Enter your choice
1
Enter the data you want to insert at beginning
24
Menu
1.Insert at beginning
2.Insert at a specific position
3.Insert at end
4.Display linked list
5.Exit
Enter your choice
3
Enter the data you want to insert at end
12
Menu
1.Insert at beginning
2.Insert at a specific position
3.Insert at end
4.Display linked list
5.Exit
Enter your choice
2
Enter the data and position at which you want to insert
2
2
Menu
1.Insert at beginning
2.Insert at a specific position
3.Insert at end
4.Display linked list
5.Exit
Enter your choice
4
Created linked list is:
24
12
2
Menu
1.Insert at beginning
2.Insert at a specific position
3.Insert at end
4.Display linked list
5.Exit
Enter your choice
5
```