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//Implementation of queue using single linked list
#include<stdio.h>
#include<stdlib.h>
struct node
{
    int data;
    struct node*link;
}*h;
void enqueue()
{
    int item;
    struct node*new;
    new=(struct node *) malloc (sizeof(struct node *));
    printf("Enter the data: ");
    scanf("%d",&item);
    new->data=item;
    new->link=NULL;
    if(h->link==NULL)
    {
        h->link=new;
    }
    else
    {
        new->link=h->link;
        h->link=new;
    }
}

void disp()
{
    struct node *ptr;
    ptr=h->link;
    if(ptr==NULL)
    {
        printf("List Empty\n");
    }
    else
    {
        while(ptr!=NULL)
        {
            printf("%d\t",ptr->data);
            ptr=ptr->link;
        }
    }
}

void dequeue()
{
    struct node *ptr,*tmp;
    ptr=h->link;
    if(ptr==NULL)
    {
        printf("\nList Empty");
    }
}

```

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else
{
    while(ptr->link!=NULL)
    {
        tmp=ptr;
        ptr=ptr->link;
    }
    tmp->link=NULL;
    free(ptr);
}
}
void main()
{
    int ch;
    h=(struct node *)malloc(sizeof(struct node *));
    do
    {
        printf("\n1:Enqueue\n2:Dequeue\n3:Display\n4:EXIT\n");
        printf("Enter the choice: ");
        scanf("%d",&ch);
        switch(ch)
        {
            case 1:enqueue();break;
            case 2:dequeue();break;
            case 3:disp();break;
            case 4:exit(0);break;
            default:printf("\nInvalid choice");
        }
    }while(ch<=8);
}

```

/*OUTPUT:

```

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 3
List Empty

```

```

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 2

```

```

List Empty
1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 1
Enter the data: 10

```

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 1
Enter the data: 20

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 1
Enter the data: 30

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 1
Enter the data: 40

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 3
40 30 20 10
1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 2

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 3
40 30 20
1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 2

1:Enqueue
2:Dequeue
3:Display
4:EXIT
Enter the choice: 3
40 30
1:Enqueue

2:Dequeue

3:Display

4:EXIT

Enter the choice: 4

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