Ex 7: Implementation of Queue using Linked List

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PROGRAM :

```
#include<stdio.h >
#include<malloc.h >
struct queue
{
int data;
struct queue *next;
};
struct queue *addq(struct queue *front);
struct queue *delq(struct queue *front);
void main()
{
struct queue *front;
int reply,option,data;
front=NULL;
do
{
printf("\n1.addq");
printf("\n2.delq");
printf("\n3.exit");
printf("\nSelect the option");
scanf("%d",&option);
switch(option)
```

```
{
case 1 : //addq
front=addq(front);
printf("\n The element is added into the queue");
break;
case 2 : //delq
front=delq(front);
break;
case 3 : exit(0);
}
}while(1);
}
struct queue *addq(struct queue *front)
{
struct queue *c,*r;
//create new node
c=(struct queue*)malloc(sizeof(struct queue));
if(c==NULL)
{
printf("Insufficient memory");
return(front);
}
//read an insert value from console
printf("\nEnter data");
scanf("%d",&c->data);
c->next=NULL;
if(front==NULL)
```

```
{
front=c;
}
else
{
//insert new node after last node
r=front;
while(r->next!=NULL)
{
r=r->next;
}}
return(front);
}
struct queue *delq(struct queue *front)
{
struct queue *c;
if(front==NULL)
{
printf("Queue is empty");
return(front);
}
//print the content of first node
printf("Deleted data:%d",front->data);
//delete first node
c=front;
front=front->next;
free(c);
```

return(front);

}

OUTPUT: