**Program :**

**Main.C**

# include<stdio.h>

# define MAX 5

int deque[MAX];

int front = -1;

int rear = -1;

void display()

{

int i;

if((front == -1)&&(rear==-1))

{

printf("Queue is empty\n");

return;

}

printf("Queue elements : ");

for(i=front;i<=rear;i++)

printf("%d ",deque[i]);

}

void insert\_rear()

{

int x;

if(front == -1 && rear == MAX-1)

{

printf("Queue Overflow\n");

return;

}

else if ((front == -1)&&(rear==-1))

{

front = 0;

rear = 0;

}

else if(rear == MAX-1)

{

printf("Queue Overflow\n");

return;

}

else

rear++;

printf("Enter The Data : ");

scanf("%d", &x);

deque[rear] = x;

display();

}

void insert\_front()

{ int x;

if((front == 0 && rear == MAX-1) || (front == rear+1))

{

printf("Queue Overflow \n");

return;

}

else if ((front == -1)&&(rear==-1))

{

front = 0;

rear = 0;

}

else if(front==0)

{

printf("Queue Overflow\n");

return;

}

else

front=front-1;

printf("Enter The Data : ");

scanf("%d", &x);

deque[front] = x;

display();

}

void delete\_front()

{ if (front == -1)

{

printf("Queue Underflows\n");

return ;

}

printf("Element Deleted : %d\n",deque[front]);

if(front == rear)

{

front = -1;

rear = -1;

}

else

front = front+1;

display();

}

void delete\_rear()

{

if (front == -1)

{

printf("Queue Underflows\n");

return ;

}

printf("Element Deleted : %d\n",deque[front]);

if(front == rear)

{

front = -1;

rear = -1;

}

else

rear = rear-1;

display();

}

**New.C**

#include "main.c"

#include <stdlib.h>

void main()

{

int n,i,p;

while(1)

{

printf("\n\t\tMenu\n\n1.Insert Front\n2.Insert Rear\n3.Delete Front\n4.Delete Rear\n5.Exit\nEnter your choice:");

scanf("%d",&n);

switch(n)

{

case 1:

{

insert\_front();

break;

}

case 2:

{

insert\_rear();

break;

}

case 3:

{

delete\_front();

break;

}

case 4:

delete\_rear();

break;

case 5:

exit(0);

}

}

}