**Name-Suraj Paswan**

**Enrol.no-2002106**

**Div-B**

Q8- Write a C program to implement dynamic circular Queue.

#include<stdio.h>

#include<stdlib.h>

#define MAX 5

struct queue

{

int data;

struct queue \*next;

}

\*front = NULL, \*rear = NULL, \*node = NULL;

void enqueue() {

node = (struct queue\*)malloc(sizeof(struct queue));

printf("Enter value for queue:\n");

scanf("%d", &node->data);

node->next = NULL;

if(front == NULL)

front = rear = node;

else

{

front->next = node;

front = node;

front->next = rear;

}

}

void dequeue()

{

if(rear != NULL)

{

node = rear;

rear = node->next;

free(node);

}

else

printf("Queue is Empty!\n");

}

void display()

{

node = rear;

printf("List of data:\n");

printf("%d\n", node->data);

while(node != front) {

node = node->next;

printf("%d\n", node->data);

}

}

int main()

{

int op = 0;

while(op != 4)

{

printf("1. Insert \n2. Delete \n3. Display\n4. Exit\n");

printf("Enter your choice:\n");

scanf("%d", &op);

switch(op)

{

case 1:

enqueue();

break;

case 2:

dequeue();

break;

case 3:

display();

break;

case 4:

exit(0);

break;

default:

printf("Invalid choice!\n");

}

}

return 0;

}

**Output:**

1. Insert

2. Delete

3. Display

4. Exit

Enter your choice:

1

Enter value for queue:

32

1. Insert

2. Delete

3. Display

4. Exit

Enter your choice:

3

List of data:

32

1. Insert

2. Delete

3. Display

4. Exit

Enter your choice:

2

1. Insert

2. Delete

3. Display

4. Exit

Enter your choice:

4