**IMPLEMENTATION OF QUEUE USING ARRAY**

**PROGRAM**

#include<stdio.h>

#include<conio.h>

#define MAX 5

int queue\_arr[MAX];

int front = -1, rear = -1;

void Enqueue(int element);

void Dequeue();

void peek();

int isEmpty();

int isFull();

void display();

int main() {

int choice, element;

while (1)

{

printf("\nMENU\n");

printf("1.Enqueue\n");

printf("2.Dequeue\n");

printf("3.Peek\n");

printf("4.Display\n");

printf("~~~~~~~~~~~~~~~~~~~~~~~~\n");

while (1) {

printf("\nEnter your choice:");

scanf("%d", &choice);

switch (choice) {

case 1:

printf("Enter the element to be inserted:");

scanf("%d", &element);

Enqueue(element);

break;

case 2:

Dequeue();

break;

case 3:

peek();

break;

case 4:

display();

break;

default:

printf("WRONG CHOICE\n");

break;

}

}

\_getch();

return 0;

}

}

int isEmpty() {

if (front == -1 || front == rear + 1)

return 1;

else

return 0;

}

int isFull()

{

if (rear == MAX - 1)

return 1;

else

return 0;

}

void Enqueue(int element)

{

if (isFull())

{

printf("\n QUEUE OVERFLOW\n");

return;

}

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

{

front = rear = 0;

queue\_arr[rear] = element;

}

else

{

rear = rear + 1;

queue\_arr[rear] = element;

}

printf("\n\*Element is inserted\* ");

}

void Dequeue()

{

int element;

if (isEmpty())

{

printf("QUEUE UNDERFLOW\n");

}

else

{

element = queue\_arr[front];

front = front + 1;

printf("\ndeleted element is:%d\n", element);

}

}

void peek()

{

if (isEmpty())

{

printf("QUEUE UNDERFLOW\n");

}

else

{

printf("Element present at the front of the queue is %d\n", queue\_arr[front]);

}

}

void display()

{

int i;

if (isEmpty())

{

printf("QUEUE OVERFLOW\n");

}

else

{

printf("Elements of the queue are:");

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

{

printf("%d\t", queue\_arr[i]);

}

}

}

**OUTPUT:**



