EXPERIMENT [13](enqueue and dequeue)

CODE:

#include <stdio.h>

#define SIZE 100

int queue[SIZE];

int front = -1, rear = -1;

// ENQUEUE operation

void enqueue(int value) {

if (rear == SIZE - 1) {

printf("Queue Overflow\n");

return;

}

if (front == -1) // First insertion

front = 0;

rear++;

queue[rear] = value;

printf("%d enqueued to queue\n", value);

}

// DEQUEUE operation

void dequeue() {

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

printf("Queue Underflow\n");

return;

}

printf("%d dequeued from queue\n", queue[front]);

front++;

}

// DISPLAY operation

void display() {

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

printf("Queue is empty\n");

return;

}

printf("Queue elements are: ");

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

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

printf("\n");

}

int main() {

int choice, value;

while (1) {

printf("\nQueue Operations Menu:\n");

printf("1. ENQUEUE\n");

printf("2. DEQUEUE\n");

printf("3. DISPLAY\n");

printf("4. EXIT\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1:

printf("Enter value to ENQUEUE: ");

scanf("%d", &value);

enqueue(value);

break;

case 2:

dequeue();

break;

case 3:

display();

break;

case 4:

printf("Exiting program.\n");

return 0;

default:

printf("Invalid choice! Please enter again.\n");

}

}

return 0;

}

OUTPUT:

