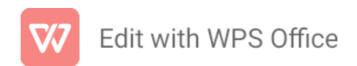
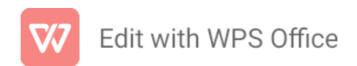
#A Program To Implement Circular Queue Using Array.

```
#include <stdio.h>
#include <stdlib.h>
#define SIZE 5
int queue[SIZE];
int front = -1, rear = -1;
void enqueue(int element) {
  if ((rear + 1) % SIZE == front) {
    printf("\nQueue is full. Cannot insert %d.\n", element);
  } else {
    if (front == -1 && rear == -1) {
       front = rear = 0;
    } else {
       rear = (rear + 1) % SIZE;
    }
    queue[rear] = element; // Insert the element
    printf("%d inserted into the queue.\n", element);
  }
}
int dequeue() {
  int dequeued;
  if (front == -1) {
    printf("\nQueue is empty. Cannot dequeue.\n");
    return -1;
```



```
} else {
     dequeued = queue[front];
     if (front == rear) {
       front = rear = -1;
    } else {
       front = (front + 1) % SIZE;
     }
     printf("\nThe dequeued element is %d\n", dequeued);
     return dequeued;
  }
}
void display() {
  if (front == -1) {
     printf("\nQueue is empty.\n");
  } else {
     printf("\nElements in the queue are: ");
     int i = front;
     while (i != rear) {
       printf("%d ", queue[i]);
       i = (i + 1) \% SIZE;
     }
    printf("%d\n", queue[rear]); // Print the rear element
  }
}
int main() {
  int choice = 1, x;
```



```
while (choice < 4 && choice != 0) {
  printf("\nPress 1: Insert an element");
  printf("\nPress 2: Delete an element");
  printf("\nPress 3: Display the elements");
  printf("\nEnter your choice: ");
  scanf("%d", &choice);
  switch (choice) {
     case 1:
       printf("Enter the element to be inserted: ");
       scanf("%d", &x);
       enqueue(x);
       break;
    case 2:
       dequeue();
       break;
     case 3:
       display();
       break;
     default:
       printf("\nInvalid choice\n");
  }
}
return 0;
```

}