**Experiment -: Queue Operations**

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**Code -:**

**#include <stdio.h>**

**#include <string.h>**

**#include <stdlib.h>**

**#include <stdbool.h>**

**#define MAX 6**

**int intArray[MAX];**

**int front = 0;**

**int rear = -1;**

**int itemCount = 0;**

**int peek() {**

**return intArray[front];**

**}**

**bool isEmpty() {**

**return itemCount == 0;**

**}**

**bool isFull() {**

**return itemCount == MAX;**

**}**

**int size() {**

**return itemCount;**

**}**

**void insert(int data) {**

**if(!isFull()) {**

**if(rear == MAX-1) {**

**rear = -1;**

**}**

**intArray[++rear] = data;**

**itemCount++;**

**}**

**}**

**int removeData() {**

**int data = intArray[front++];**

**if(front == MAX) {**

**front = 0;**

**}**

**itemCount--;**

**return data;**

**}**

**int main() {**

**/\* insert 5 items \*/**

**insert(3);**

**insert(5);**

**insert(9);**

**insert(1);**

**insert(12);**

**insert(15);**

**if(isFull()) {**

**printf("Queue is full!\n");**

**}**

**int num = removeData();**

**printf("Element removed: %d\n",num);**

**insert(16);**

**insert(17);**

**insert(18);**

**printf("Element at front: %d\n",peek());**

**printf("----------------------\n");**

**printf("index : 5 4 3 2 1 0\n");**

**printf("----------------------\n");**

**printf("Queue: ");**

**while(!isEmpty()) {**

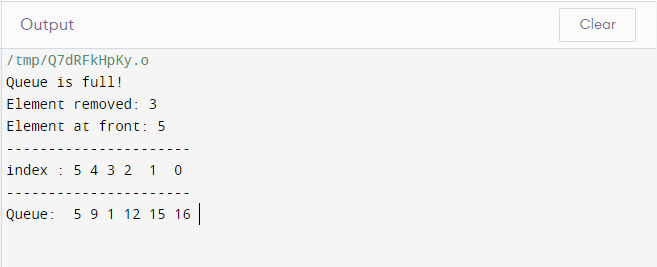
**int n = removeData();**

**printf("%d ",n);**

**}**

**}**

**Output -:**

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