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LAB-3 PROGRAM

Write a program to simulate the working of queue of integers using an array. Provide the following operations
(a) Insert
(b) Delete front
(c) Display the contents of queue.

```
#include < stdio.h >
# include < conio.h >
#include < process.h >
# define QUE_SIZE 3
int item, front = 0, rear = -1, q[10];
void insertrear()
{
 if (rear == QUE_SIZE -1)
 {
 printf ("queue overflow \n");
 return;
 }
 rear= rear+1;
 q[rear] = item;
}
int deletefront()
{
 if (front > rear)
 {
 front = 0;
 rear = -1;
 return -1;
 }
 return q [front ++];
}
void displayq()
```

```
{
 int i;
 if (front > rear)
 {
  printf ("queue is empty\n");
  return ;
 }
 printf ("contents of queue\n");
  for (i= front ; i<=rear ;i++)
 {
  printf ("%d\n", q[i]);
 }
}
void main()
{
 int choice;
 clrscr();
 for(;;)
 {
  printf ("\n1: Insert rear \n2: delete front \n3: display \n4: exit \n");
  printf ("enter the choice \n");
  scanf ("%d", &choice);
  switch (choice)
  {
   case 1 : printf ("enter the item to be inserted \n");
            scanf ("%d", &item);
            insertrear();
            break;
   case 2 : item = delete front();
            if (item == -1)
            printf ("queue is empty\n");
            else
```

```
        printf ("\n Item deleted = %d\n", item);
        break;
    case 3: display();
            break;
    default : exit(0);
    }
}
```