DS Lab-5 Queue Implementation

*) WAP to stimulate the working of a queue of integers using an array. Provide the following operations a) Insert b) Delete c) Display. The program should print appropriate messages for queue empty and queue overflow conditions.

→ CODE:-

```
#include<stdio.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;
   for(;;)
  {
   printf("\n 1.Insert rear \n 2. Delete front\n 3. Display
          \n. 4. exit \n");
  printf("Enter the choice\n");
  scanf("%d", &choice)
  {
   case 1: printf("Enter the item to be inserted \n");
   scanf("%d", &item);
   insertrear();
   break;
   case 2: item = deletefront();
   if (item == -1)
   printf("Queue is empty \n");
   else
     printf("Item deleted = %d\n", item);
  break;
 case 3: displayQ();
  break;
 default: exit(0);
}}}
```