Date ___/___/_____

Lab Program 3

Q Write a program to stimulate the working of queue of integers using an array. Provide the following operations

a) Insert rear
b) Delete Front
c) Display the contents of queue

The program should print the appropriate messages for a queue empty and queue full condition

```
#include<stdio.h>
#include<stdlib.h>
#define Q_size 2
int item, front=0, rear=-1, q[10];
void insertrear()
{
    if (rear == Q_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 display()
{
  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("\n1: insertrear \n2: deletefront \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 = deletefront();
if (item == -1)
printf ("QUEUE IS EMPTY \n");
else
printf ("ITEM DELETED = %d \n", item);
break;
case 3 : displayQ();
break;
default : exit(0);
}
}
}
```