Lab program-3:

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#include <stdio.h>
#include <stdlib.h>
#define size 3
void enque(int[], int, int*);
void deque(int[], int*, int*);
void display(int[], int*, int*);
int main()
{
    int queue[size], choice, element, ch, rear=-1,
    front=0;
  do
  {
printf("Enter your choice \n");
printf("1. Insert \n 2. Delete \n3. Display \n");
scanf("%d", &choice);
switch(choice)
{ case 1: printf("Enter the element to be inserted \n");
          scanf("%d", &element);
          enque(queue, element, &rear);
          break;
  case 2: deque(queue, &rear, &front);
          break;
  case 3: display(queue, &rear, &front);
          break;
   default: printf("Wrong choice \n");
}
printf("Do you want to continue? Press 0 to stop,
  else press any other number \n");
scanf("%d", &ch);
} while(ch!=0);
```

```
    return 0;
}
void enque (int queue[], int ele, int *prear)
{
  if (*prear == size-1)
  { printf(" queue overflow. This element cannot be
    added to the queue.\n ");
  }
  else
  { (*prear)++;
    queue[*prear] = ele;
  }
}

void deque (int queue[], int *prear, int *pfront)
{
  if ((*prear == -1 && (*pfront)== 0))
    printf (" Queue is empty \n");
    else
  { printf (" Deleted element is %d \n", queue[*pfront]);
    (*pfront)++;
    if ((*pfront) > (*prear))
    { (*pfront) = 0;
      (*prear) = -1;
    }
  }
}
void display(int queue[], int *prear, int *pfront)
{ int i;
  printf("The queue elements are :\n");
  for (i=(*pfront); i<=(*prear); i++)
  { printf("%d \t", queue[i]);
  }
  printf("\n");
}
```