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Class: SY-IT

Roll no: 47

Experiment No. 2

Program:

```
#include <stdio.h>
int q[100];
int f=-1, r=-1;
int i,n,x,op;
void insert();
void delete ();
void display();

void main()
{ printf("Enter the size of Queue (Max size=100):");
  scanf("%d",&n);
  do
  { printf("\t1.Insertion\t2.Deletion\t3.Display\t4.Exit\n");
    printf("\n Enter your operation:");
    scanf("%d",&op);
    switch (op)
    { case 1: if (r>=n-1)
              { printf("Queue Overflow\n");
                }
            else { printf("Enter the element to insert:");
                  scanf("%d",&x);
                  r++;
                  q[r]=x;
                  if (f==-1)
                  { f=0;
                    }
                }
            break;
        case 2: if (f==-1)
                  { printf("Queue Underflow\n");
                    }
                else { printf("The deleted element is: %d\n",q[f]);
                      if (f==r)
                      f=r=-1;
                      else
                      f++;
                    }
                break;
        case 3: if (r<0)
                  { printf("Queue is empty\n");
                    }
                else { printf("The elements in the Queue are:\n");
                      for (i=f;i<n;i++)
                      { printf("%d",q[i]);
                        }
                      printf("\n");
                    }
                break;
        case 4: printf("Exiting Program");
```

```

        break;
    default: printf("Please enter a valid choice\n");
             break;
    }
} while (op != 4);
}

```

Output:

```

dl0417@tadmi:~$ gedit sidrane.c
dl0417@tadmi:~$ gcc sidrane.c
dl0417@tadmi:~$ ./a.out
Enter the size of Queue (Max size=100):5
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Enter the element to insert:4
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Enter the element to insert:5
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Enter the element to insert:6
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Enter the element to insert:7
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Enter the element to insert:8
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Queue Overflow
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:9
Please enter a valid choice
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Queue Overflow
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:10
Please enter a valid choice
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 4
1.Insertion 2.Deletion 3.Display 4.Exit

dl0417@tadmi:~$

dl0417@tadmi:~$ ./a.out
Queue Overflow
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:9
Please enter a valid choice
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:1
Queue Overflow
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:10
Please enter a valid choice
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 4
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 5
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 6
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 7
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
The deleted element is: 8
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:2
Queue Underflow
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:3
Queue is empty
1.Insertion 2.Deletion 3.Display 4.Exit

Enter your operation:4
dl0417@tadmi:~$

```