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Sy – IT

```c
#include <stdio.h>
int Q[100], FRONT = -1, REAR = -1, i, n, x, choice;
void insert();
void delete ();
void display();

void main()
{
   printf("\t WELCOME to implementation of QUEUE using array !! \n");
   printf("Enter the size of Queue (Maximum size = 100): ");
   scanf("%d", &n);
   do
   {
      printf("\n Queue Operation available: \n");
      printf("\t1.Insert \t2.Delete \t3.Display \t4.Exit \n");
      printf("\n Enter your choice: ");
      scanf("%d", &choice);
      switch (choice)
      {
      case 1:
         insert();
         break;
      case 2:
         delete ();
         break;
      case 3:
         display();
         break;
      case 4:
         printf("Exit: Program Finished !! ");
         break;
      default:
         printf("Please enter a valid choice 1, 2, 3, 4 \n");
         break;
      }
   } while (choice != 4);
}

void insert()
{
   if (REAR >= n - 1)
   {
      printf(" Queue Overflow ! \n");
   }
   else
   {
```

```c
        printf(" Enter the element to insert: ");
        scanf("%d", &x);
        REAR++;
        Q[REAR] = x;
        if (FRONT == -1)
        {
            FRONT = 0;
        }
    }
}

void delete ()
{
    if (FRONT == -1)
    {
        printf(" Queue Underflow ! \n");
    }
    else
    {
        printf(" The deleted element is: %d \n", Q[FRONT]);
        if (FRONT == REAR)
            FRONT = REAR = -1;
        else
            FRONT++;
    }
}

void display()
{
    if (REAR < 0)
    {
        printf(" Queue is empty ! \n");
    }
    else
    {
        printf(" The elements in the Queue are: \n");
        for (i = FRONT; i < n; i++)
        {
            printf(" %d ", Q[i]);
        }
        printf("\n");
    }
}
```

dl406@itadmin:~/Desktop/Sy-It$ gcc first.c
gcc: error: first.c: No such file or directory
gcc: fatal error: no input files
compilation terminated.
dl406@itadmin:~/Desktop/Sy-It$ gedit first.c
dl406@itadmin:~/Desktop/Sy-It$ gcc first.c
dl406@itadmin:~/Desktop/Sy-It$ ./a.out
              WELCOME to implementation of QUEUE using array !!
Enter the size of Queue (Maximum size = 100): 70

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 23

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 32

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 145
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 167
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 187
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1567
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 83

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 84

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 85

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 3
The elements in the Queue are:
765 56 1 1 1 76 23 43 44 45 67 47 78 79 70 80 81 82 83 84 85 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 2
The deleted element is: 765

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 3
The elements in the Queue are:
56 1 1 1 76 23 43 44 45 67 47 78 79 70 80 81 82 83 84 85 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice:

Enter your choice: 1
Enter the element to insert: 56

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 189
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 1

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 1

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice:
1
Enter the element to insert: 1

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 1
Enter the element to insert: 76

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 165
Please enter a valid choice 1, 2, 3, 4

Queue Operation available:
        1.Insert   2.Delete   3.Display   4.Exit

Enter your choice: 178
Please enter a valid choice 1, 2, 3, 4