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SY-IT
EXP-2

```
#include <stdio.h>
int Q[100], FRONT = -1, REAR = -1, j, 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
   {
      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 (j = FRONT; j < n; j++)
        {
            printf(" %d ", Q[j]);
        }
        printf("\n");
    }
}
```

OUTPUT: