# WEEK 3- Queue implementation

```
#include <stdio.h>
#include<stdlib.h>



#define MAX 5


void insert();
void delete();
void display();
int array[MAX];
int rear = - 1;
int front = - 1;
int main()
{
   int select;
   while (1)
   {
      printf("1.Insert an element to the queue \n");
      printf("2.Delete an element from queue \n");
      printf("3.Display all elements of queue \n");
      printf("4.Terminate \n");
      printf("Enter your selection : ");
      scanf("%d", &select);
      switch (select)
      {
         case 1:
         insert();
         break;
```

```
            case 2:
            delete();
            break;
            case 3:
            display();
            break;
            case 4:
            exit(1);
        }
    }
}

void insert()
{
    int add;
    if (rear== MAX - 1)
    printf("Queue Overflow \n");
    else
    {
        if (front== - 1)
        front = 0;
        printf("Enter element to be inserted :");
        scanf("%d", &add);
        rear= rear + 1;
        array[rear]= add;
    }
}

void delete()
{
    if (front== - 1 || front > rear)
```

```
    {
        printf("Queue Underflow \n");
        return ;
    }
    else
    {
        printf("Element deleted from queue is : %d\n",array[front]);
        front= front + 1;
    }
}

void display()
{
    int i;
    if (front== - 1)
        printf("Queue is empty \n");
    else
    {
        printf("Queue is :");
        for (i= front; i <= rear; i++)
            printf("%d ",array[i]);
        printf("\n");
    }
```

```
1.Insert an element to the queue
2.Delete an element from queue
3.Display all elements of queue
4.Terminate
Enter your selection : 1
Enter element to be inserted :23
1.Insert an element to the queue
2.Delete an element from queue
3.Display all elements of queue
4.Terminate
Enter your selection : 1
Enter element to be inserted :24
1.Insert an element to the queue
2.Delete an element from queue
3.Display all elements of queue
4.Terminate
Enter your selection : 2
Element deleted from queue is : 23
1.Insert an element to the queue
2.Delete an element from queue
3.Display all elements of queue
4.Terminate
Enter your selection : 3
Queue is :24
1.Insert an element to the queue
2.Delete an element from queue
3.Display all elements of queue
4.Terminate
Enter your selection : 4


...Program finished with exit code 1
Press ENTER to exit console.
```
}