- * Queue can be easily represented using linear
- Array: + Two variables that point to the position from where insertion and deletion can be done such as Rear and Pront respectively.

3	4	1 5	6	1		
16	- (2	3	4	5	6
" fron	t		1 Real	ı		
1 Pean	ıt		1 Real	. 7	8	

Front = 0, Rear = 3, suppose we want to add eled element then Rear incremented by 1 So Rear: Rear +1

13	4	5	6	7	2 : 69 :
4	t	2	3	7 1	Market .
10	gunnala	an	godel	Real	Jucies al
Ciant					

Queue after insertion Pront=0 Rear = 4 Procedure: Enqueue

Step1: If Rear = = : MAX -1

end if write overflow 40 to step 4 2: If Pront = -1 and Reax = = -1
Set Front = Reax = 0

Reax = Reax+1

end if.

Steps: Set Queue [Rear] = Num 4: exit Deleting [Dequeue] 1. check underflow condition, where try to delete element from a queue that is already empty. 2. Peont = -1 and Real = -1, means no element in the Queue. Algo: Dequeue Step1: if Pront - - 1 ox Front > Rear unite underflow set val- aueue [Front] Set Feont = Feont + 1 (end IF) step 2 : exct Queue after deleting an element 4567 21.3.14 = 5006 917: 10ste Reag

Front=1 Réag - 4

```
denear avene us one array.
# include < Std10.h>
# include < conto.h>
# define N 10
int queue [N];
int Peont = -1, sear = -1;
Void insert (void);
int delete-element (void);
int Peek (void); () dog = Jav
Void display ( void ) .
(nt main ()
int option, val.
                  Cheale.
      do
       { peintf ("Inln + + main menu");
        Paintfl" In 1. insert an element");
         printf ( 'In 2. Delete an element');
        printfl" In 3. peek (top in stonek)");
        peintf (" In 4. Display queve");
       prentf ("In S. Exit,");
       printf ( 'In Enter option:
       Scanf ["/d" 4 option ).
       Switch Coption)
        Case 1
              Insext ()
                break;
```

```
case 2
         val = delete-element ();
         IF (val 1 = -1)
         Printf [" In the number deleted is:
                %d', val);
                word insext (void);
         break;
              int delete - element (wid) ;
   Case 3 :
         Val = peek ()
         IF (val ! = -1)
          Print & ("In The Prest value in
               Queue is: 'lad', val).
          beeak;
   Case 4:
desplay ();
 inmole no break ; n' dismuo
Dientif L In 3 . prete (top in broke)"
  3 while Loption 1 = 5);
     getch co
     defuent o ; state of I deman
        - woulds + PY T + was
```

Contrad Copfice

```
Void insut ()
                                 C) HOSE BAI
  int num;
               IF C PROME - - 1 II Frant > wear ) -
  Paintfl"In Enter the number to be inserted in
          the queue : ");
                              to a manth
  Scanf ( " % d , of num );
 17 ( Year = = N-1)
    Printf ( In overflow);
 else if ( Pront = = -1 & 4 year = = -1)
     front = rear = 0;
                             voed desplay ()
· else
    rear ++ ;
   Queue [real] = num;
             IF C Front = = - 1 1 Front > real
             Dent I I'm Queur emply ")
int delele-element ()
         int val;
     [ [ Front = = -1 | ] Front > rear )
             pernet ( In underflow").
             xetuen -1;
        else
                     WE WALL MARKE 4
               val = Queue [ Peant ]
               front ++; 33.100 .6
               IF (front > real,)....
                 front = real = +1
                  refuen (val
```

```
int peek ()
  IF C front = = -1 11 Pront > rear)
 Print P ( 'In aueue empty"),
    refuen -1;
                       YEAR = H NI-1)
  else
           Queve [front];
                    $ 1- e = inaxi
void display ()
 IF ( front = = -1 | front > year)
  prent & ("In Queue emp14");
        Pox Ci= Pront; i <= rear, i++)
                  12 %d", Queue [i]).
         server ( In undertow?)
                       refuer -1 -
         Odelle
         peek
```