Aim:- Implementation of Linear Queue Data Structure using array.

Code:-

```
#include<stdio.h>
#define n 5
int main()
{
printf("D10A_Atharva Chavan_9\n");
printf("\n");
int queue[n],ch=1,front=0,rear=0,i,j=1,x=n;
printf("****Queue using Array****");
printf("\n1.Insertion \n2.Deletion \n3.Display \n4.Exit");
while(ch)
{
printf("\nEnter the Choice: ");
scanf("%d",&ch);
printf("\n");
switch(ch)
{
case 1:
if(rear==x)
```

```
printf("\n Queue is Full!");
else
{
printf("\nEnter no %d:",j++);
scanf("%d",&queue[rear++]);
}
break;
case 2:
if(front==rear)
{
printf("\n Queue is empty!");
}
else
{
printf("\nDeleted Element is %d",queue[front++]);
x++;
}
break;
case 3:
printf("\nQueue Elements are: \n");
if(front==rear)
printf("\n Queue is Empty");
else
```

```
{
for(i=front; i<rear; i++)
{
printf("%d",queue[i]);
printf("\n");
}
break;
case 4:
printf("You have exited the Queue!");
exit(0);
default:
printf("Wrong Choice: Please select an appropriate option");
}
}
} return 0;
}
```

Output:-

```
/tmp/KZAJFyJRYm.o
D10A_Atharva Chavan_9

****Queue using Array****
1.Insertion
2.Deletion
3.Display
4.Exit
Enter the Choice: 1
Enter no 1:30
Enter the Choice: 1
Enter no 2:20
Enter the Choice: 1
Enter no 3:10
Enter the Choice: 2
Deleted Element is 30
Enter the Choice: 3
Queue Elements are:
20
10

Enter the Choice: 4
You have exited the Queue!
```