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Question No 4 : Simple Queue

```
#include <stdio.h>
#include <stdlib.h>
#define n 5
int main ()
{
    int queue[n];
    int num=1;
    int front=0;
    int rear=0;
    int i;
    int j=1;
    int x=n;

    printf("Queue Implementation using Array \n");
    printf("Choose from the options \n");
    printf("1.Adding \n2.Deleting \n3.Display \n4.Exit\n");

    while(num)
    {
        printf("\nPlease Enter your choice : ");
        scanf("%d",&num);
        switch(num)
        {
            case 1:
                if(rear==x)
                    printf("\n Queue is Full");
                else
                {
                    printf("\nEnter input : \n");
                    scanf("%d",&queue[rear++]);
                }
            }
    }
```

```

        break;
case 2:
    if(front==rear)
    {
        printf("\nQueue is empty");
    }
    else
    {
        printf("\nDeleted Element : %d",queue[front++]);
        x++;
    }
    break;
case 3:
    printf("\nQueue Elements are:\n");
    if(front==rear)
        printf("\nQueue is Empty");
    else
    {
        for(i=front; i<rear; i++)
        {
            printf("%d",queue[i]);
            printf("\n");
        }
        break;
case 4:
    printf("Program Exit \n");
    exit(0);
default:
    printf("Please enter Valid options");
    }
}

return 0;
}

```

Output :

```
exam1@AB1210SCOPE70:~$ gcc 23mcal030queue.c
exam1@AB1210SCOPE70:~$ ./a.out
Queue Implementation using Array
Choose from the options
1.Adding
2.Deleting
3.Display
4.Exit

Please Enter your choice : 1

Enter input :
10

Please Enter your choice : 1

Enter input :
20

Please Enter your choice : 1

Enter input :
30

Please Enter your choice : 1

Enter input :
40

Please Enter your choice : 3

Queue Elements are:
10
20
30
40
```

```
Please Enter your choice : 2

Deleted Element : 10
Please Enter your choice : 3

Queue Elements are:
20
30
40

Please Enter your choice : 4
Program Exit
exam1@AB1210SCOPE70:~$
```