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Roll No:- 66 **Class:-** SYBCA **Batch:-**
Practical 4 :- Implementation of Queue using array..

```
include<iostream.h>
#include<conio.h>
class queue
 {
  private:
   int a[10],f,r,item;
  public:
   queue()
    {
     f=-1;
     r=-1;
    }
    void insert();
    void del();
    void show();
    int isempty();
};
 int queue::isempty()
  {
   if(f==-1)
    return (1);
   else
     return (0);
  }
  void queue::insert()
   {
    if((f==0 && r==9) || (f==r+1))
    {
     cout<<"\n overflow:";
    }
   else
    {
         cout<<"\n Enter the item:";
         cin>>item;
         if(isempty())
          {
           f=r=0;
          }
     else
         {
          if(r==9)
           r=0;
          else
```

```
            r++;
           }
       a[r]=item;
      }
     }
  void queue::del()
 {
  if(isempty())
  {
   cout<<"\n Underflow:";
  }
 else
 {
  item=a[f];
  if(f==r)
   f=r=-1;
    else
      if(f==9)
       f=0;
    else
     f++;
     cout<<" \n Deleted item is :"<<item;
    }
 }
 void queue::show()
 {
  if(isempty())
   {
    cout<<"\n Underflow:";
   }

  else
  if (f<=r)
  {
   for(int i=f; i<=r;i++)
   cout<<"\t"<<a[i];
  }
  else
  {
    for(int i=f; i<=9; i++)
     cout<<"\t"<<a[i];
    for(i=0; i<=r; i++)
     cout<<"\t"<<a[i];
  }
 }
void main()
{
 clrscr();
 queue v;
 int ch;
```

```
do
{
 cout<<"\n1.insert\n2.delete\n3.show\n4.exit";
 cout<<"\n Enter your choice:";
 cin>>ch;
 switch(ch)
 {
   case 1:v.insert();break;
   case 2:v.del(); break;
   case 3:v.show(); break;
   case 4: break;
   default: cout<<"\n invalid choice";
 }
}
while(ch!=4);
getch();
}
```

Output:

1. insert
2. delete
3. show
4. exit

Enter your choice: 1
Enter the item: 1

1. insert
2. delete
3. show
4. exit

Enter your choice: 1
Enter the item: 2

1. insert
2. delete
3. show
4. exit

Enter your choice: 1
Enter the item: 3

1. insert
2. delete
3. show
4. exit

Enter your choice: 1
Enter the item: 4

1. insert
2. delete
3. show

```
4. exit
Enter your choice: 3
      1       2       3       4

1. insert
2. delete
3. show
4. exit
Enter your choice: 2
Deleted item is: 1

1. insert
2. delete
3. show
4. exit
Enter your choice: 2
Deleted item is: 2

1. insert
2. delete
3. show
4. exit
Enter your choice: 2
Deleted item is: 3

1. insert
2. delete
3. show
4. exit
Enter your choice: 2
Deleted item is: 4

1. insert
2. delete
3. show
4. exit
Enter your choice: 3
Underflow
```