

## Group E31:--- Kaustubh Shrikant Kabra SE COMP-1 20

Program:---

```
#include<iostream>
//#include
//#include
using namespace std;
#define SIZE 5
// ERROR HANDLINH NOT DOne

//  program is not working correct.
//
class dequeue
{

    int a[10],front,rear,count;

public:
    dequeue();
    void add_at_beg(int);
    void add_at_end(int);
    void delete_fr_front();
    void delete_fr_rear();
    void display();
};

dequeue::dequeue()
{
    front=-1;
    rear=-1;
    count=0;
}
```

```

void dequeue::add_at_beg(int item)
{
    int i;
    if(front==-1)
    {
        front++;
        rear++;
        a[rear]=item;
        count++;
    }
    else if(rear>=SIZE-1)
    {
        cout<<"\nInsertion is not possible,overflow!!!!";
    }
    else
    {
        for(i=count;i>=0;i--)
        {
            a[i]=a[i-1];
        }
        a[i]=item;
        count++;
        rear++;
    }
}

```

```

void dequeue::add_at_end(int item)
{

```

```

    if(front==-1)
    {
        front++;

```

```

        rear++;
        a[rear]=item;
        count++;
    }
    else if(rear>=SIZE-1)
    {
        cout<<"\nInsertion is not possible,overflow!!!";
        return;
    }
    else
    {
        a[++rear]=item;
    }
}

```

```

void dequeue::display()
{
    for(int i=front;i<=rear;i++)
    {
        cout<<a[i]<<" ";    }
}

```

```

void dequeue::delete_fr_front()
{
    if(front==-1)
    {
        cout<<"Deletion is not possible:: Dequeue is empty";
        return;
    }
}

```

```

else
{
    if(front==rear)
    {
        front=rear=-1;
        return;
    }
    cout<<"The deleted element is "<<a[front];
    front=front+1;
}

}

void dequeue::delete_fr_rear()
{
    if(front==-1)
    {
        cout<<"Deletion is not possible:Dequeue is empty";
        return;
    }
    else
    {
        if(front==rear)
        {
            front=rear=-1;
        }
        cout<<"The deleted element is "<< a[rear];
        rear=rear-1;
    }

}

}

```

```

int main()
{
    int c,item;
    dequeue d1;

    do
    {
        cout<<"\n\n****DEQUEUE OPERATION****\n";
        cout<<"\n1-Insert at beginning";
        cout<<"\n2-Insert at end";
        cout<<"\n3_Display";
        cout<<"\n4_Deletion from front";
        cout<<"\n5-Deletion from rear";
        cout<<"\n6_Exit";
        cout<<"\nEnter your choice<1-4>:";
        cin>>c;

        switch(c)
        {
            case 1:
                cout<<"Enter the element to be inserted:";
                cin>>item;
                d1.add_at_beg(item);
                break;

            case 2:
                cout<<"Enter the element to be inserted:";
                cin>>item;
                d1.add_at_end(item);
                break;

            case 3:
                d1.display();
                break;

```

```

        case 4:
            d1.delete_fr_front();
            break;
        case 5:
            d1.delete_fr_rear();
            break;

        case 6:
            exit(1);
            break;

        default:
            cout<<"Invalid choice";
            break;
    }

    }while(c!=7);
    return 0;

}

```

## Output:-

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:1

Enter the element to be inserted:25

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:1

Enter the element to be inserted:26

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:2

Enter the element to be inserted:65

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:3

0 25 65

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end



3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:4

The deleted element is 0

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:3

25 65

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:5

The deleted element is 65

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:3

25

\*\*\*\*DEQUEUE OPERATION\*\*\*\*

1-Insert at beginning

2-Insert at end

3\_Display

4\_Deletion from front

5-Deletion from rear

6\_Exit

Enter your choice<1-4>:6