**Simple Queue**

#include <iostream>

using namespace std;

#define N 5

int q[N];

int f=-1,r=-1;

void sqinsert();

int sqdelete();

void display();

int main()

{

int ch;

int value;

do

{

//cout<<"\n---MENU----";

cout<<"\n 1. Insert";

cout<<"\n 2. Delete";

cout<<"\n 3. Display";

cout<<"\n 4. Exit";

cout<<"\n Enter Your Choice:";

cin>>ch;

switch(ch)

{

case 1:

sqinsert();

break;

case 2:

value=sqdelete();

cout<<"\n Deleted Value=:"<<value;

break;

case 3:

display();

break;

case 4:

break;

}

}while(ch!=4);

return 0;

}

void sqinsert()

{

int value;

if(r>=N-1)

{

cout<<"\n Queue is Overflow";

return;

}

r=r+1;

cout<<"\n Enter the value to insert:";

cin>>value;

q[r]=value;

if(f==-1)

{

r=0;

f=0;

}

}

int sqdelete()

{

int value;

if(f==-1)

{

cout<<"\nQueue is Underflow";

return(-1);

}

value=q[f];

if(f==r)

{

f=-1;

r=-1;

}

else

f=f+1;

return(value);

}

void display()

{

int i;

cout<<"\n Values-->\n";

for(i=f;i<=r;i++)

{

if(f==-1)

cout<<"Queue is Empty";

else

cout<<q[i]<<endl;

}

}

**IRDQ**

#include <iostream>

using namespace std;

#define N 5

int q[N];

int f=-1,r=-1;

void dqinsert();

int dqdelete();

void display();

int main()

{

int ch;

int y;

do

{

cout<<"\n 1. Insert";

cout<<"\n 2. Delete";

cout<<"\n 3. Display";

cout<<"\n 4. Exit";

cout<<"\n Enter Your Choice:";

cin>>ch;

switch(ch)

{

case 1:

dqinsert();

break;

case 2:

y=dqdelete();

cout<<"\n Deleted Value="<<y;

break;

case 3:

display();

break;

case 4:break;

}

}while(ch!=4);

}

void dqinsert()

{

int y;

if(r>=N-1)

{

cout<<"\n Overflow";

return;

}

r=r+1;

cout<<"\n Enter the value to insert";

cin>>y;

q[r]=y;

if(f==-1)

f=0;

}

int dqdelete()

{

int y;

char ch;

if(f==-1 && r==-1)

{

cout<<"\n Underflow";

return(-1);

}

else if(f==r)

{

y=q[f];

f=-1;

r=-1;

return(y);

}

else

{

cout<<"\n Enter Your choice(f/r):";

cin>>ch;

if(ch=='f')

{

y=q[f];

f=f+1;

}

else if(ch=='r')

{

y=q[r];

r=r-1;

}

return(y);

}

}

void display()

{

int i;

cout<<"\n Values-->\n";

for(i=f;i<=r;i++)

{

cout<<q[i]<<" ";

}

}

**ORDQ**

#include <iostream>

using namespace std;

#define N 5

int q[N];

int f=-1,r=-1;

void dqinsert();

int dqdelete();

void display();

int main()

{

int ch;

int y;

do

{

cout<<"\n 1. Insert";

cout<<"\n 2. Delete";

cout<<"\n 3. Display";

cout<<"\n 4. Exit";

cout<<"\n Enter Your Choice:";

cin>>ch;

switch(ch)

{

case 1:

dqinsert();

break;

case 2:

y=dqdelete();

cout<<"\n Deleted Value="<<y;

break;

case 3:

display();

break;

case 4:break;

}

}while(ch!=4);

}

void dqinsert()

{

int y;

char ch;

if(f==-1 && r==-1)

{

cout<<"\n Enter Value:";

cin>>y;

f=0;

r=0;

q[r]=y;

return;

}

cout<<"\n Enter your choice(f/r)";

cin>>ch;

if(ch=='f')

{

if(f==0)

{

cout<<"\n Cant Insert from front";

return;

}

else

{

cout<<"\n Enter Value:";

cin>>y;

f=f-1;

q[f]=y;

return;

}

}

else if(ch=='r')

{

if(r>=N-1)

{

cout<<"\n Overflow";

return;

}

else

{

r=r+1;

cout<<"\n Enter Value:";

cin>>y;

q[r]=y;

}

}

}

int dqdelete()

{

int y;

if(f==-1)

{

cout<<"\n Underflow";

return(-1);

}

y=q[f];

if(f==r)

{

f=-1;

r=-1;

}

else

f=f+1;

return(y);

}

void display()

{

int i;

cout<<"\n Values-->\n";

for(i=f;i<=r;i++)

{

cout<<q[i]<<" ";

}

}

Circular Queue

#include <iostream>

using namespace std;

#define N 5

int q[N];

int f=-1,r=-1;

void insert();

void del();

void display();

int main()

{

int ch;

do

{

cout<<"\n 1.Insert";

cout<<"\n 2.Delete";

cout<<"\n 3.Display";

cout<<"\n 4.Exit";

cout<<"\n Enter your choice:";

cin>>ch;

switch(ch)

{

case 1:

insert();

break;

case 2:

del();

break;

case 3:

display();

break;

case 4:

break;

}

}while(ch!=4);

return 0;

}

void insert()

{

int y;

if(r==N-1)

r=0;

else

r=r+1;

if(r==f)

{

cout<<"\n Overflow";

if(r==0)

r=N-1;

else

r=r-1;

return;

}

cout<<"\n Enter Value:";

cin>>y;

q[r]=y;

if(f==-1)

f=0;

}

void del()

{

int y;

if(f==-1)

{

cout<<"\n Underflow";

return;

}

y=q[f];

if(f==r)

{

f=-1;

r=-1;

}

else if(f==N-1)

{

f=0;

}

else

{

f=f+1;

}

cout<<"Deleted Value: "<<y;

return;

}

void display()

{

int i,j;

cout<<"\n Values\n";

if(f<=r)

{

for(i=f;i<=r;i++)

cout<<q[i]<<" ";

}

else

{

for(i=0;i<=r;i++)

cout<<q[i]<<" ";

for(j=f;j<=N-1;j++)

cout<<q[j]<<" ";

}

}