#include<iostream>

#include<conio.h> //for exit(1);

using namespace std; //headeer files

class lab //class name

{

private: //data member

int arr[10]; //array

int start, end,top; //variables

public: //member function

lab() //constracter

{

start=0; //for queue front,delation,dequeue

end=0; //fpr queue rear ,back,insertion,enqueue

top=5; //for stack

}

//////////////////////////////////////////////

void push() //for stack insertion values

{

// int x;

if(end==5)

cout<<"stack is full\n"<<endl;

else

{

cout<<"Enter value\n";

cin>>arr[end];

cout<<"The value "<<arr[end]<<" at index "<<end<<endl<<endl;

end++;

}

}

///////////////////////////////////////////////////

void pop() //for stack deletion values

{

if (end==start)

cout<<"Stack is empty\n"<<endl;

else

{

cout<<"poped value:";

cout<<arr[--end]<<endl;

}

}

///////////////////////////////////////////////////

void enqueue()

{

if (top>=10)

cout<<"queue is full\n"<<endl;

else

{

cout<<"Enter value\n";

cin>>arr[top];

cout<<"the value "<<arr[top]<<" at index "<<top<<endl<<endl;

top++;

}

}

/////////////////////////////////////////////////////

void dequeue()

{

if (top==5)

cout<<"Queue is empty\n";

else

{

cout<<"Dequeueud value:";

cout<<arr[start];

for(int i=start; i<top; i++)

{

arr[i]=arr[i+1];

}

top--;

}

}

////////////////////////////////////////////////

void display()

{

for(int j=0; j<end; j++)

cout<<arr[j];

}

///////////////////////////////////////////////////

void displayq()

{

for(int k=5; k<top; k++)

cout<<arr[k];

}

///////////////////////////////////////////////////

void status1()

{

cout<<5-end<<"space available"<<endl;

}

////////////////////////////////////////////////

void status2()

{

cout<<10-top<<"space available"<<endl;

}

};

///////////////////////////////////////////////

int main()

{

lab l;

int c;

backk:

cout<<"Enter 1 to enter value in stack"<<endl;

cout<<"Enter 2 to enter value in queue"<<endl;

cout<<"Enter 3 to exit"<<endl;

cin>>c;

switch(c)

{

case 1:

int n;

back:

cout<<"Enter 1 to push value"<<endl;

cout<<"Enter 2 to pop value"<<endl;

cout<<"Enter 3 to Display stack"<<endl;

cout<<"Enter 4 to status"<<endl;

cout<<"Enter 5 to go back in main menu"<<endl;

cin>>n;

switch(n)

{

case 1:

l.push();

goto back;

break;

case 2:

l.pop();

goto back;

break;

case 3:

l.display();

goto back;

break;

case 4:

l.status1();

goto back;

break;

case 5:

goto backk;

}

break;

case 2:

int m;

bak:

cout<<"Enter 1 to enqueue value"<<endl;

cout<<"Enter 2 to dequeue value"<<endl;

cout<<"Enter 3 to Display queue"<<endl;

cout<<"Enter 4 to check status"<<endl;

cout<<"Enter 5 to go back in main menu"<<endl;

cin>>m;

switch(m)

{

case 1:

l.enqueue();

goto bak;

break;

case 2:

l.dequeue();

goto bak;

break;

case 3:

l.displayq();

goto bak;

break;

case 4:

l.status2();

goto back;

break;

case 5:

goto backk;

}

case 3:

exit(1);

}

//getch(); //use #include<conio.h>

getchar();

getchar();

return 0;

}