//6 In this problem you have to take an array of size 10 and divide it into two equal parts.

//In half part apply Stack and in remaining half apply Queue.

#include<iostream>

using namespace std;

int arr[10];

class stack

{

private:

int top1;

public:

stack()

{

top1=-1;

}

void push(int x)

{

if(top1<5)

{

arr[++top1]=x;

}

}

int pop()

{

if(top1>-1)

{

return arr[top1--];

}

}

};

class quee

{

private:

int top2;

int back;

public:

quee()

{

top2=5;

back=5;

}

void push(int e)

{

if(top2>=5)

{

arr[++top2]=e;

}

}

int pop()

{

if(back<10&&back>=5)

{

return arr[back++];

}

}

};

void main()

{

stack s1;

quee q1;

for(int i=0;i<5;i++)

{

s1.push(10+i);

}

for(int i=5;i<10;i++)

{

q1.push(20+i);

}

cout<<"data on stack"<<endl;

for(int i=0;i<5;i++)

{

cout<<s1.pop()<<endl;

}

cout<<"data in quee is"<<endl;

for(int i=5;i<10;i++)

{

cout<<q1.pop()<<endl;

}

system("pause");

}