#include <iostream>

#include<cstdio>

#include<cstdlib>

using namespace std;

class swap1{

int a;

int b;

public:

swap1()

{

this->a=10;

this->a=20;

}

swap1(int a, int b)

{

this->a=a;

this->b=b;

}

int c;

void swapvalue(int a,int b)

{

this->a=a;

this->b=b;

int t;

t=this->a;

this->a=this->b;

this->b=t;

cout<<endl<<"Value after swapping call by value(in function):"<<endl<<"a="<<this->a<<" "<<"b="<<this->b;

}

void swapaddress(int \*a,int \*b)

{

this->a=\*a;

this->b=\*b;

int t;

t=this->a;

this->a=this->b;

this->b=t;

cout<<endl<<"Value after swapping call by address(in function):"<<endl<<"a="<<this->a<<" "<<"b="<<this->b;

}

void swaprefernce(int &x,int &y)

{

this->a=x;

this->b=y;

int t;

t=this->a;

this->a=this->b;

this->b=t;

cout<<endl<<"Value after swapping call by refernce(in function):"<<endl<<"a="<<this->a<<" "<<"b="<<this->b;

}

void input(int a, int b)

{

swap1(a,b);

}

int dispa()

{

return this->a;

}

int dispb()

{

return this->b;

}

};

int main() {

cout<<"Enter the swapping algorithm..........................";

cout<<endl<<"Enter value of a:";

int a;

cin>>a;

cout<<endl<<"Enter value of b:";

int b;

cin>>b;

swap1 object1;

object1.input(a,b);

cout<<endl<<"Enter type of swapping...............";

cout<<endl<<"Press 1. for call by value.";

cout<<endl<<"Press 2. for call by address.";

cout<<endl<<"Press 3. for call by reference.";

cout<<endl<<"Press anything else to exit.";

cout<<endl<<"Enter value:";

cin>>object1.c;

switch(object1.c)

{

case 1:object1.swapvalue(a,b);

cout<<endl<<"Values of a and b in main function(actual) are:"<<endl<<"a="<<a<<" "<<"b="<<b;

break;

case 2:object1.swapaddress(&a,&b);

cout<<endl<<"Values of a and b in main function(actual) are:"<<endl<<"a="<<object1.dispa()<<" "<<"b="<<object1.dispb();

break;

case 3:object1.swaprefernce(a,b);

cout<<endl<<"Values of a and b in main function(actual) are:"<<endl<<"a="<<object1.dispa()<<" "<<"b="<<object1.dispb();

break;

default:exit(0);

}

cout<<endl<<"Press Enter to exit.";

getchar();

return 0;

}