//qtn1

#include<iostream>

using namespace std;

int main()

{

int i = 3;

int j = 4;

int \*p1 = &i;

int \*p2 = &j;

// see below

cout<<"value of i is "<<i<<" value of p1 is "<<\*p1<<endl;

cout<<"value of j is "<<j<<" value of p2 is "<<\*p2<<endl;

\*p1=\*p2;

cout<< i<<endl;

\*p1=j\*2;

\*p2=j+3;

cout<<"value of i is "<<i<<" value of p1 is "<<\*p1<<" "<<"value of j is "<<j<<" value of p2 is "<<\*p2<<endl;

p1=&j;

p2=&j;

cout<<"value of i is "<<i<<" value of p1 is "<<\*p1<<" "<<"value of j is "<<j<<" value of p2 is "<<\*p2<<endl;

return 0;

}

//qt2

#include<iostream>

using namespace std;

int main()

{

int i = 3;

int j = 4;

int a[] = {5, 6, 7};

double x = 8.9;

int \*p1 = &i;

int \*p2 = &j;

double \*pd = NULL;

pd=&x;

cout<<"value of x is "<<x<<" value of pd is "<<\*pd<<endl;

// see below

return 0;

}

//Qt3

#include<iostream>

using namespace std;

int main()

{

int n = 3;

int i = 3;

int a[] = {5, 6, 7};

int \*p1 = NULL;

// see below

p1 = a;

for (i = 0; i < n; ++i){

cout<<"value of a[i] is "<<a[i]<<" value of p1 is "<<p1[i]<<endl;

}

i = p1[2];

cout<<"value of i is "<< i <<" value of a[2] is "<<a[2]<<" value of p1[2] is "<<p1[2]<<endl;

for (i = 0; i < n; ++i){

p1[i] = -2 \* p1[i];

cout<<"value of a[i] is "<<a[i]<<" value of p1 is "<<p1[i]<<endl;

}

return 0;

}

//Q4

// header files

#include<iostream>

using namespace std;

void swap(int \*u, int \*v) // #1

{

cout << "(b) " << (\*u) << " " << (\*v) << endl;

double tmp = \*u; // save temporary value (dereference) // #2

\*u = \*v; // copy dereference // #3 is an assignment of the variables in the calling application.

\*v = tmp; // assign dereference // #4 is an aslo assignment of the variables in the calling application.

cout << "(c) " << (\*u) << " " << (\*v) << endl; // #5 print the swap value of the variables

}

int main()

{

int i = 3;

int j = 4;

//int k=5;

//int p=k;

//cout << &i<<endl;

cout << "(a) " << i << " " << j << endl;

swap(&i, &j); // #6 // sending the address of i and j

cout << "(d) " << i << " " << j << endl;

return 0;

}

//q5

#include<iostream>

using namespace std;

void array\_dbl(int n, int \*u) // #1

{

for (int i = 0; i < n; ++i) {

u[i] = 2\*u[i];

}

}

int main()

{

int n = 3;

int a[] = {5, 6, 7};

int \*p1 = a;

// #2 // #2

for(int i=0; i<n; i++){

cout<<a[i]<<" ";

}

array\_dbl(n, a);

// #3 // #3

cout<<endl;

for(int i=0; i<n; i++){

cout<<a[i]<<" ";

}

array\_dbl(n, p1);

// #4 // #4

cout<<endl;

for(int i=0; i<n; i++){

cout<<a[i]<<" ";

}

return 0;

}

//q6

#include <iostream>

#include <vector>

using namespace std;

double\* get\_const\_element( vector<double> &v, int n) // etc

{

if ((n >= 0) && (n < v.size()))

return &v[n]; // return value = pointer

else

return NULL; // return value = pointer (NULL)

}

int main()

{

int len = 5;

vector<double> v;

for (int i = 0; i < len; ++i){

v.push\_back( i + 1.2 );

}

for (int i = -1; i < len+2; ++i) {

double \* value= get\_const\_element(v, i); // call the function correctly

if (value == NULL){ // write this line correctly

cout << "null, i = " << i << endl;

}

else{

cout << \*(value) << endl; // write this line correctly

}

}

return 0;

}

//Q7

#include<iostream>

using namespace std;

int main()

{

double x = 6.5;

double \*pd = new double;

\*pd=10.5;

if(x<\*pd){

cout<<"x < (\*pd) true"<<endl;

}

else{

cout<<"x < (\*pd) false"<<endl;

}

if(\*pd>x){

cout<<"x < (\*pd) true"<<endl;

}

else{

cout<<"x < (\*pd) false"<<endl;

}

pd= new double;

\*pd= 6.5;

if(x<\*pd){

cout<<"x < (\*pd) true"<<endl;

}

else{

cout<<"x < (\*pd) false"<<endl;

}

if(\*pd>x){

cout<<"x < (\*pd) true"<<endl;

}

else{

cout<<"x < (\*pd) false"<<endl;

}

//cout<<"value of x is "<<x<<" value of pd is "<<\*pd<<endl;

// see below

return 0;

}

//q8

#include<iostream>

using namespace std;

void sum\_array(int j, const double \*a, double &sum){

for(int i=0; i<j; i++){

sum+=a[i];

}

}

int main()

{

int n = 5;

double d[] = {1.1, 2.2, 3.3, 4.4, 5.5};

double \*pa = NULL;

double \*pb = NULL;

// see below

double sum=0;

sum\_array(n,d,sum);

cout<< sum<<endl;

pa = new double[n];

pb = new double[n];

for (int i = 0; i < n; ++i) {

pa[i] = 0;

for (int j = 0; j <= i; ++j) {

pa[i] = pa[i] + d[j];

}

}

for(int i=0; i<n; i++){

cout<<pa[i]<<endl;

}

return 0;

}