// Ch10ptr2 -Examples of pointers

#include<iostream>

using std::cin;

using std::cout;

using std::endl;

#include<iomanip>

using std::setw;

using std::setfill;

using std::left;

#include<string>

using std::string;

typedef int\* intPtr;

int main()

{

intPtr ptNum, amtAddr, zAddr, numAddr, ptDay, ptYr;

ptNum = 0;

ptDay = 0;

amtAddr = 0;

int years= 30;

int m= 12;

int amt= 2000;

int firstnum = 0;

int slope = -2;

int k = 3;

string emptyTitle = "";

zAddr = &slope;

numAddr = &firstnum;

ptYr = &years;

firstnum = 154;

cout<<" BEFORE \t"<<left<<setw(8)<<setfill(' ')<<"ptNum"<< ' '<<setw(8)<<"amtAddr"<<' '

<<setw(8)<<"zAddr"<<' '<<setw(8)<<"numAddr"<<' '<<setw(8)<<"ptDay"<< ' '<<setw(8)<<"ptYr "

<<endl;

cout<<"adresses \t"<<left<<setw(8)<<setfill(' ')<<ptNum <<' '<< amtAddr <<' '<<zAddr<< ' '

<<numAddr << ' '<<ptDay<< ' '<<ptYr <<"\n\n";

cout<<" \t"<<left<<setw(8)<<setfill(' ')<<"years "<<' '<<setw(8)<<"firstnum "<<' ‘

<<setw(8)<<"slope "<<' ' <<setw(8)<<"amt "<< ' '<<setw(8)<<"m "<<' '<<setw(8)<< " k "

<<endl;

cout<<"adresses \t"<<left<<setw(8)<<setfill(' ')<<&years <<' '<<setw(8)<<&firstnum<< ' ‘

<<setw(8)<<&slope<<' '<<setw(8)<<&amt <<' '<< setw(8)<<&m << ' '<<setw(8)<<&k

<<endl;

cout<<"data \t"<<left<<setw(8)<<setfill(' ')<<years <<' '<<setw(8)<<firstnum<< ' ‘

<<setw(8)<<slope<<' '<<setw(8)<<amt <<' '<< setw(8)<<m << ' '<<setw(8)<<k <<"\n\n\n";

cout<<endl;

ptNum = &m;

amtAddr = &amt;

\*zAddr = 25;

k= \*numAddr;

ptDay = zAddr;

\*ptYr = 1987;

\*amtAddr = \*numAddr;

cout<<" AFTER \t"<<left<<setw(8)<<setfill(' ')<<"ptNum"<< ' '<<setw(8)<<"amtAddr"<<' ‘

<<setw(8)<<"zAddr"<<' '<<setw(8)<<"numAddr"<< ' '<<setw(8)<<"ptDay"<<' '<<setw(8)<<"ptYr "

<<endl;

cout<<"adresses \t"<<left<<setw(8)<<setfill(' ')<<ptNum <<' '<< amtAddr <<' '<<zAddr<< ' '

<<numAddr << ' '<<ptDay<< ' '<<ptYr <<"\n\n";

cout<<" \t"<<left<<setw(8)<<setfill(' ')<<"years "<< ' '<<setw(8)<<"firstnum "<<' ‘

<<setw(8)<<"slope "<<' ' <<setw(8)<<"amt "<< ' '<<setw(8)<<"m "<<' '<<setw(8)<< " k "

<<endl;

cout<<"adresses \t"<<left<<setw(8)<<setfill(' ')<<&years <<' '<<setw(8)<<&firstnum<<' ‘

<<setw(8)<<&slope<<' '<<setw(8)<<&amt <<' '<< setw(8)<<&m << ' '<<setw(8)<<&k

<<endl;

cout<<"data \t"<<left<<setw(8)<<setfill(' ')<<years <<' '<<setw(8)<<firstnum<<' ‘

<<setw(8)<<slope<<' '<<setw(8)<<amt <<' '<< setw(8)<<m << ' '<<setw(8)<<k <<"\n\n\n";

cout<<endl;

return 0;

}