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// Wyo Ch. 14 Demo #9
// Purpose - to illustrate the use of a template function

#include <iostream.h>
#include "H:\C++\ClassFiles\apvector.h"
#include "H:\C++\ClassFiles\randgen.h"

template <class iDontKnowWhat>
int search(apvector <iDontKnowWhat> myVec, iDontKnowWhat keyValue);

int main()
{
    apvector <int> grades(10, 0);
    RandGen numbers;
    int i = 0;
    int position = -1;
    int key = 0;

    for (i = 0; i < 10; i++)
    {
        grades[i] = numbers.RandInt(0, 100);
        cout << grades[i] << ' ';
    }

    cout << "\nEnter a value to look for: ";
    cin >> key;

    position = search(grades, key);

    if (position != -1)
    {
        cout << "The value you are looking for is found in position " << position << endl;
    }
    else
    {
        cout << "The value you are looking for is not found in the vector." << endl;
    }

    return 0;
} // end of main

template <class iDontKnowWhat>
int search(apvector <iDontKnowWhat> myVec, iDontKnowWhat keyValue)
{
    int i = 0;

    for (i = 0; i < myVec.length(); i++)
    {
        if (myVec[i] == keyValue)
        {
            return i;
        }
    }

    return -1;
} // end of search

```