//Demo program to demonstrate the use of arrays with pointers

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#include <iostream>

#include <cstdlib>

#include <ctime>

using namespace std;

//Function prototypes

void fillArray(int []);

void printArray(int []);

void printArray2(int \*);

const int SIZE = 100;

int main()

{

int myArray[SIZE]; //Create an array reference

srand(time(0)); //Initialize random number generator

int \*ptr; //Create an integer pointer

fillArray(myArray); //Fill the array with random numbers

ptr = myArray; //Point at the array with the integer pointer

printArray(myArray); //Print the array in the traditional manner

cout << "\n\n\n";

printArray2(myArray); //Print the array using pointers

return 0;

}

//Fill the array with random integers in the range of 1 to 1000

void fillArray(int a[])

{

for (int index = 0; index < SIZE; index++)

a[index] = rand()% 1000 + 1;

}

//Print the array in the traditional manner

void printArray(int a[])

{

for (int index = 0; index < SIZE; index++)

{

if (index % 5 == 0)

cout << endl;

cout << a[index] << '\t';

}

cout << endl;

}

//Print the array using pointers

void printArray2(int \*p)

{

int \*pFirst;

int \*pLast;

int count = 0;

pFirst = p; //Set pointer to the first element

pLast = pFirst + SIZE - 1; //Set pointer to the last element

while (pFirst <= pLast)

{

if (count % 5 == 0)

cout << endl;

cout << \*pFirst << '\t';

pFirst++; //Increment pointer to the next element

count++;

}

cout << endl;

}