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#include <stdio.h>

#include <time.h>

#include <string.h>

#include <stdlib.h>

void printDoubleArray(double\* dp, int len);

void swapIntegerValues(int\* i1, int\* i2);

void squareIntArray(int\* i1, int len);

void printIntegerArrayBackwards(int\* arr, int len);

void randomIntArray(int\* arr, int len, int max);

void main()

{

srand(time(NULL));

int num1 = 4;

int num2 = 12;

double arr1[] = { 1.50, 2.30, 4.70, 8.90 };

int arr2[] = { 1, 2, 3, 4, 5 };

printDoubleArray(arr1, 4);

swapIntegerValues(num1, num2);

squareIntArray(arr2, 5);

printIntegerArrayBackwards(arr2, 5);

randomIntArray(arr2, 5, 100);

for (int i = 0; i < 5; i++)

{

printf("%d\t", arr2[i]);

}

}

void printDoubleArray(double\* dp, int len)

{

printf("Q1 Double array...\n");

for (int i = 0; i < len; i++) //loop through and print

{

printf("%0.2lf\t", \*(dp + i));

}

}

void swapIntegerValues(int\* i1, int\* i2)

{

printf("Q2 Integer swap...\n");

prinf("x = %d, y = %d\n", i1, i2);

int temp = 0;

temp = i1; //temporarily store value to swap

i1 = i2; //swap

i2 = temp;

printf("x = %d, y = %d\n", i1, i2);

}

void squareIntArray(int\* i1, int len)

{

printf("Q3 Square array...\n");

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

{

\*i1 = (\*i1) \* (\*i1);

printf("%d\t", \*i1);

i1++;

}

}

void printIntegerArrayBackwards(int\* arr, int len)

{

printf("Q4 Array backwards...\n");

arr += (len - 1);

for (int i = len - 1; i >= 0; i--) //reverse loop and print.

{

printf("%d\t", \*arr);

arr--;

}

}

void randomIntArray(int\* arr, int len, int max)

{

printf("Q5 Random integers...\n");

for (int i = 0; i < len; i++) //loop array

{

\*(arr + 1) = (rand() % (max + 1)); //set array value to be a number from 1 to 100.

}

}