

Forum:[Hack Forums](#)

Thread: [Fun C Challenge\(Pointers, Random Integers, Arrays\)](#)

EmacsSucksButILikeIt - February 17, 2022, 10:26 pm

Fun C Challenge(Pointers, Random Integers, Arrays)..

Here's a fun and standard C problem. Can you shuffle an array of integers via an array of int pointers?

I.E.

Say you have an array of integers:

Code `#define ARR_SIZE 10`

`int arr[ARR_SIZE] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};`

and an array of int pointers:

Code `#define ARR_SIZE 10`

`int *arr_ptrs[ARR_SIZE] = {NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL};`

Now can you use the addresses of the elements in arr to populate arr_ptrs such that each address in arr is present in arr_ptrs only once and is shuffled.

Here's something to get you started:

Code `#include <stdio.h>`

`#include <stdlib.h>`

`#include <time.h>`

`#define ARR_SIZE 10`

```
void shuffle(int arr[], int *arr_ptr[], size_t size) {  
    //Do your C magic here  
}
```

```
int main(int argc, char **argv) {  
    size_t i = 0;  
    int arr[ARR_SIZE] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};  
    int *arr_ptrs[ARR_SIZE] = {NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL};  
  
    shuffle(arr, arr_ptrs, ARR_SIZE);  
  
    for (; i < ARR_SIZE; i++) {  
        arr_ptrs[i] ?  
            fprintf(stdout, "(%ld): %d\n", i, *arr_ptrs[i]) :  
            fprintf(stdout, "(%ld): NULL value\n", i);  
    }  
    return 0;  
}
```

Here is some examples of what the output of printing arr_ptrs would look like.

Code (0): 8

(1): 7
(2): 2
(3): 3
(4): 10
(5): 1
(6): 9
(7): 4
(8): 5
(9): 6Code (0): 1
(1): 3
(2): 8
(3): 7
(4): 4
(5): 10
(6): 2
(7): 6
(8): 5
(9): 9

Notice that each number from arr is represented and the output is shuffled.

unazed - June 4, 2022, 11:03 pm

a simple xorshift prng on the indices should be fine