

# Week 09

## Array with Pointers Example



# Taxi Office



- There are  $N$  taxis in a taxi office. Each taxi has an numeric id that varies from 0 to  $N-1$ .
- To be fair, they use the following strategy;
  - Taxis leave from office for costumers in a random order.
  - In the following day, to be fair they leave from office in reverse order of previous day.
  - This strategy continues with creating new random order every other day.



# Order and Reverse Order

An example of random order and it's reverse;

3	5	2	0	1	4
4	1	0	2	5	3



# Code

- Implement functions using this template code

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

#define ARRAY_SIZE 20

void swap(int *first, int*second){
    ...
}

void random_fill_array(int *arr){
    ...
}

int main(){
    int my_array[ARRAY_SIZE];

    // random numbers
    random_fill_array(my_array);

    printf("ORIGINAL ARRAY: ");
    for (int i = 0; i < ARRAY_SIZE; printf("%-5d", my_array[i++]));
    printf("\n");

    ....
    ....
    ....

    printf("REVERSE ARRAY: ");
    for (int i = 0; i < ARRAY_SIZE; printf("%-5d", my_array[i++]));
    printf("\n");

    return EXIT_SUCCESS;
}
```

ORIGINAL ARRAY:	17	12	16	5	2	7	15	0	9	10	4	8	3	19	18	11	1	6	13	14
REVERSE ARRAY:	14	13	6	1	11	18	19	3	8	4	10	9	0	15	7	2	5	16	12	17

