Computer Programming

Quiz2

June 9, 2023

GIST

Problem 1 (pr1.c)

- Write a program that receives an integer array A of size 10, writes a function array_copy( ) that copies the array, and a function array_print( ) that outputs it, and tests it. Hint, this function assigns a[0] to b[0], a[1] to b[1], ..., a[size-1] to b[size-1].

- The prototype of a function is:

  void array_copy(int a[], int b[], int size);

  void array_print(int a[], int size);

Problem 1 (pr1.c)

- **Program output**

```
[ohyong@cse Quiz2_s123]$ vi pr1.c
[ohyong@cse Quiz2_s123]$ gcc pr1.c -o pr1
[ohyong@cse Quiz2_s123]$ ./pr1
Enter the array A: 1 2 3 4 5 0 0 0 0 0

[Result]
Array A: 1 2 3 4 5 0 0 0 0 0
Array B: 1 2 3 4 5 0 0 0 0 0
```

```
[ohyong@cse Quiz2_s123]$ ./pr1
Enter the array A: 1 2 3 4 5 6 7 8 9 10

[Result]
Array A: 1 2 3 4 5 6 7 8 9 10
Array B: 1 2 3 4 5 6 7 8 9 10
```

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Problem 2 (pr2.c)

- Write the following program.

- The base salary of the employees is input as an integer array of size 10. Receive employee bonuses as input as an integer array of size 10. We want to calculate the total monthly salary to be paid this month by adding the base salary and bonus. Write a function that adds A[ ] and B[ ] and stores it in an array C[ ] and a function that outputs an array and write a test program. That is, C[i] = A[i] + B[i] for all i.

- The prototype of the function is:

  void array_add(int a[], int b[], int c[], int size);

  void array_print(int *a, int size);

Problem 2 (pr2.c)

- **Program output**

```
[ohyong@cse Quiz2_s123]$ vi pr2.c
[ohyong@cse Quiz2_s123]$ gcc pr2.c -o pr2
[ohyong@cse Quiz2_s123]$ ./pr2
Enter the array A(base salary): 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
Enter the array B(bonuses): 100 200 300 400 500 600 700 800 900 1000

[Result]
Array A(base salary): 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
Array B(bonuses): 100 200 300 400 500 600 700 800 900 1000
Array C(total monthly salary): 1100 2200 3300 4400 5500 6600 7700 8800 9900 11000
```

Problem 3 (pr3.c)

- Write a program that declares a two-dimensional array of 5×5 integers, receives the values, and outputs the average of the total.

Problem 3 (pr3.c)

- **Program output**

```
[ohyong@cse Quiz2_s123]$ vi pr3.c
[ohyong@cse Quiz2_s123]$ gcc pr3.c -o pr3 -std=c99
[ohyong@cse Quiz2_s123]$ ./pr3
Enter the values for the 5x5 array:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

The average of the entire array is 13.00.
```

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Submission

- **Submit to CSE server**

  At the end of the Quiz2, submit your C source files by typing

  ~gs1401/bin/submit Quiz2_s123 pr1.c pr2.c pr3.c   // due - 6:00 pm

  You may check that you have submitted your source code correctly by typing

  ~gs1401/bin/submit -check

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