Ankara University
Computer Engineering
COM2067 LAB 1

Within the scope of this lab, write a C code that prints the rows and columns in which the sum of the values in the rows and columns are the same in the two-dimensional integer matrix received from the user. Your program should also look for equality within rows and columns. A simple example is shown in the figure below.

75	10	40	67	87	18	18	95	89	6	68	41	82	34	67	= 797
81	10	51	97	31	80	6	57	50	19	50	59	50	80	38	= 759
25	8	49	65	75	36	84	94	84	25	0	52	67	34	38	= 736
86	67	48	89	65	79	70	23	36	72	94	39	31	44	71	= 914
21	21	79	70	87	7	59	23	1	43	48	61	47	67	39	= 673
37	53	6	85	43	71	64	65	46	53	89	92	92	20	88	= 904
15	41	10	95	64	97	54	23	20	55	18	20	60	17	40	= 629
51	54	45	57	91	88	81	55	5	27	60	94	72	4	66	**= 850**
60	20	8	70	67	24	19	21	47	91	28	17	12	40	86	= 610
4	91	92	49	48	83	90	29	90	95	9	51	90	81	55	= 957
56	41	75	16	64	94	92	83	15	91	75	43	8	39	35	= 827
46	43	26	38	44	75	21	34	56	12	30	65	63	72	98	= 723
70	80	92	98	49	56	92	41	91	60	33	66	3	93	57	= 981
39	40	52	17	78	97	92	52	31	1	64	61	62	79	85	**= 850**
17	1	66	9	99	15	65	44	56	8	4	89	75	59	83	= 690

= 683 = 580 **= 739** = 922 = 992 = 920 = 907 **= 739** = 717 = 658 = 670 **= 850** = 814 = 763 = 946

As can be seen from above matrix, the sums of the 7th, 13th row and 11th column are equal to each other. At the same time, the sums of columns 2 and 7 are also equal. Examine "output.txt" for the printing order.

Submission: Name your source file as <StudentID>.c. For example, if your ID is 22290777, then you will submit 22290777.c file.

Testing:

We provide a sample input/output text file pairs for you to test your codes at Ubuntu. We recommend you to use input redirection mechanism of your operating system to test your programs. For example, if your executable is called as **Lab1**, redirect the **input.txt** file to standard input using **<** operator and redirect your outputs to a file using **>** operator such as:

> ./Lab1<input.txt>output.txt

This kind of execution enables your programs to read inputs from a file without writing any file related functions. In other words, **scanf** reads data from the redirected files instead of the std. input in this way (e.g. keyboard).

Automatically compare your own output with the expected output by using the **diff myOutput1.txt output1.txt** command. If a warning as shown below does not appear on the screen after executing this command, this means that your program is working correctly. If you see a warning in the command system after executing the command, this indicates that there is a problem with your output.