

2015 – 2016 .

: 9-11

1.

ball.dpr | ball.pas | ball.cpp | ball.c

1,000,000).

$k_i -$

input.txt

n

n -

(2 n

$k_1, k_2, \dots, k_n,$

$i (1 \leq k_i \leq n, k_i \neq i).$

output.txt

input.txt	output.txt
5 2 3 4 5 1	1
5 2 1 5 3 4	2
10 4 7 2 1 10 5 3 9 8 6	4

3, 4 5.

1 2,

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**: 9-11**

2.

max.dpr | max.pas | max.cpp | max.c

$X_1, X_2, \dots, X_n$ .

K.

**input.txt**  $n$  K (1 K < N  $10^6$ ).  
 $X_1, X_2, \dots, X_n$  ( $-10^9 \leq X_i \leq 10^9$ ).

**output.txt**

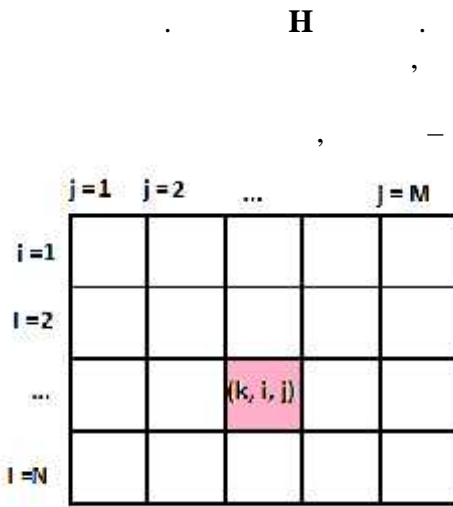
$X_i + X_j$   $|i - j| \leq K$ .

<b>input.txt</b>	<b>output.txt</b>
5 3 1 2 9 7 3	8
10 6 15 43 -54 4 48 96 -28 -95 -28 49	92
10 4 -89 -66 -42 -52 -69 -65 -95 -73 -67 -86	-109

$|i - j| \leq 3$ .  $X_1+X_4, X_1+X_5, X_2+X_5,$   
 $\max(1+7, 1+3, 2+3)$ .

3.

drill.dpr | drill.pas | drill.cpp | drill.c



$(k, i, j)$  :  $(k-1, i, j), (k+1, i, j), (k, i-1, j), (k, i+1, j), (k, i, j-1), (k, i, j+1)$ .

input.txt :  $N, M, H$  -  $R, D$   $N \cdot M \cdot H, R + D$   $N \cdot M \cdot H$ .  
 $(1 \quad N, M, H \quad 100, 0 \quad R, D \quad N \cdot M \cdot H, R + D \quad N \cdot M \cdot H)$ .  
 $1 \quad j \quad M,$   
 $(1 \quad k \quad H, 1 \quad i \quad N,$   
 $(1 \quad k \quad H, 1 \quad i \quad N, 1 \quad j \quad M,$

output.txt

input.txt	output.txt
2 3 5 3 4 1 1 1 1 1 2 1 2 3 5 1 2 4 2 3 3 2 2 2 1 1	14
1 1 10 3 2 1 1 1 10 1 1 5 1 1 2 1 1 7 1 1	3

4.

grid.dpr | grid.pas | grid.cpp | grid.c

:

D1, , “\” (ASCII 92)  
 “/” (ASCII 47) D2.  
 “x” (ASCII 120). “\” “/”,  
 (D, 0) (0, 0) “\”.  
 “/”.  
 “.” ( ). “/”, “\”, “x”,  
 (x, y), W  
 H  
 x x+W-1 y y+H-1

input.txt D1, D2, D, x, y, W H (1 D1, D2 10<sup>6</sup>,  
 0 D < D2, 0 x, y 1000, 1 W, H, 1000).

output.txt H W

input.txt	output.txt
1 1 0 20 10 20 5	XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX
2 2 0 20 10 10 5	x.x.x.x.x. .x.x.x.x.x x.x.x.x.x. .x.x.x.x.x x.x.x.x.x.
2 2 1 20 10 10 5	\/\/\/\/\/\
3 2 1 20 10 10 5	./\/.x./\/ x./\/.x./\ .x./\/.x./\ /.x./\/.x. \/.x./\/.x
100 100 0 20 10 10 5	..... ..... ..... ..... .....
7 3 2 20 10 10 5	../.\../. ./../\../.. /..../.x../ \../..../\.. .x../..../\.
3 7 6 20 10 10 5	..\.\..\.\. \..x..\..\. .\../.\..\../ ./\..\..\..x. x..\..\../.\.

: \_\_\_\_\_  
 : 9-11

5.

path.dpr | path.pas | path.cpp | path.c

input.txt

N -

(2 N

20). 1 - ,  
 2 N-1

N - ,

K<sub>ij</sub> 10). K<sub>ij</sub>

K<sub>ij</sub>, j = i+1, ..., N; i = 1, ..., N-1 (0  
 i j.

output.txt

input.txt	output.txt
3 2 2 3	8
4 1 1 2 1 0 0	2
4 3 1 0 3 2 1	16

1,  
 1,

2 \* 3 = 6

2 + 6 = 8