Exercise 13a. Implement the program 'exercise_13a_minimum' that
checks whether or not the flat zone (piecewise-constant region)
of a pixel (x,y) is a regional minimum.

exercise_13a_minimum exercise_13a_input_01.txt exercise_13a_input_01.pgm exercise_13a_output_01.pgm

The input file 'exercise_13a_input_01.txt' is an input file with
4 lines of parameters:
-At line 1: an integer number 'x' that denotes the column of the pixel.
-At line 2: an integer number 'y' that denotes the row of the pixel.
-At line 3: an integer number 'connectivity' that denotes the
connectivity number employed (4 or 8, corresponding to 4-connectivity
or 8-connectivity, respectively).

The program should write 1 or 0 to an output file called
exercise_13a_output_01.txt depending on whether or not the
flat zone of pixel (x,y) is a regional minimum.

(Note: regional minimum: flat zone whose neighboring regions
all have greater intensity values.)

Note: 8-connectivity can be assumed.

To check this program:
-immed_gray_inv_20051218_frgr4.pgm   (input image)
-For pixel (column=90, row=40), the result should be 1
(the flat zone is a regional minimum).
-For pixel (column=60, row=35), the result should be 0
(the flat zone is not a regional minimum).

(Note: pixel (column=0, row=0) is that at the upper-left corner.)

Exercise 13b. Similarly, implement the program 'exercise_13a_maximum'
that checks whether or not the flat zone (piecewise-constant region)
of a pixel (x,y) is a regional maximum.

exercise_13b_maximum exercise_13b_input_01.txt exercise_13b_input_01.pgm exercise_13b_output_01.pgm

The input file 'exercise_13b_input_01.txt' is described in the
previous exercise.

The program should write 1 or 0 to an output file called
exercise_13b_output_01.txt depending on whether or not the
flat zone of pixel (x,y) is a regional maximum.

(Note: regional maximum: flat zone whose neighboring regions
all have lesser intensity values.)

Note: 8-connectivity can be assumed.

To check this program:
-immed_gray_inv_20051218_frgr4.pgm   (input image)
-For pixel (column=35, row=20), the result should be 1
(the flat zone is a regional maximum).
-For pixel (column=20, row=15), the result should be 0
(the flat zone is not a regional maximum).

(Note: pixel (column=0, row=0) is that at the upper-left corner.)