**Technical Test**

Graphical editors allow users to edit images in the same way text editors let us modify documents.

Images are represented as an *M x N* array of pixels with each pixel given colour.

Produce a program that simulates a simple interactive graphical editor.

**Input**

The input consists of a line containing a sequence of commands. Each command is represented by a

single capital letter at the start of the line. Arguments to the command are separated by spaces and follow

the command character.

Pixel co-ordinates are represented by a pair of integers: 1) a column number between 1 and *M*, and 2) a

row number between 1 and *N*. Where 1 <= *M, N* <= 250. The origin sits in the upper-left of the table.

Colours are specified by capital letters.

**Commands**

The editor supports 7 commands:

1. **I M N**. Create a new *M x N* image with all pixels coloured white (O).

2. **C**. Clears the table, setting all pixels to white (O).

3. **L X Y C**. Colours the pixel (*X,Y*) with colour *C*.

4. **V X Y1 Y2 C**. Draw a vertical segment of colour *C* in column *X* between rows *Y*1 and *Y*2

(inclusive).

5. **H X1 X2 Y C**. Draw a horizontal segment of colour *C* in row *Y* between columns *X*1 and *X*2

(inclusive).

6. **F X Y C**. Fill the region *R* with the colour *C*. *R* is defined as: Pixel (*X,Y*) belongs to *R*. Any other

pixel which is the same colour as (*X,Y*) and shares a common side with any pixel in *R* also belongs

to this region.

7. **S**. Show the contents of the current image

8. **X**. Terminate the session

**Example**

In the example below, > denotes input, => denotes program output.

> I 5 6

> L 2 3 A

> S

=>

OOOOO

OOOOO

OAOOO

OOOOO

OOOOO

OOOOO

> F 3 3 J

> V 2 3 4 W

> H 3 4 2 Z

> S

=>

JJJJJ

JJZZJ

JWJJJ

JWJJJ

JJJJJ

JJJJJ