Ester Egg Task

The aim of the task is to "design" an Easter Card.

Ultimately, on the background of Easter egg, patterns will be "drawn" in the form of horizontal stripes.

3 classes should be implemented.

Card

The Card, a square matrix of size m x m, is stored in a dynamic 1-dimensional array - with successive lines. A single element of the card is a class defined in the file element.h.

In the card class there is a method egg(), which should "paint over" the elements of the card that are beyond the contour of the egg:

Egg center: sx = sy = m / 2 (where m is dimension of the image)

Egg radius: r = min (sx, sy) -1;

we fill with the background color all elements (i, j) for which:

$(i-sx)^2 + (j-sy)^2 > r^2$

Pattern

A horizontal pattern (stripe) with the sx coordinate should be generated.

The draw() method fills the selected line of the card with a character of the given color (sx - line index).

History

Successive versions of the cards are automatically saved in the history.

The history class is responsible for saving subsequent versions of cards. It allows to store up to N consecutive cards or perform undo operations.

The new card in history is always added to the last free position in the table, and if there are too many of them - we delete the first one in the history and make room for adding.

At least 1 picture (then the current one) always remains in the history.