**Homework #6**

1. **Yokoi number counting**



Figure 1: The input image Lena.

We implement the algorithm of Yokoi number counting, and test it in a 64 x 64 resized input. The algorithm goes like the slide describing, we brief list the code below:

1. function a = h(b, c, d, e)
2. t = ( (d == b) ) & ( e == b ) )
3. if ( b == c )
4. if ~t
5. a = q
6. else
7. a = r
8. end
9. end
10. end
11. function y = f( a1, a2, a3, a4 )
12. if ( a1 == a2 == a3 == a4 == r ) y = 5
13. else y = ( a1 == q ) + ( a2 == q ) + ( a3 == q ) + ( a4 == q )
14. end

**Appendix**

The program is written by MATLAB. To run the program, copy the input data to the folder “dat/”, and run “src/yo.m” without any argument to get the output in “out/”.