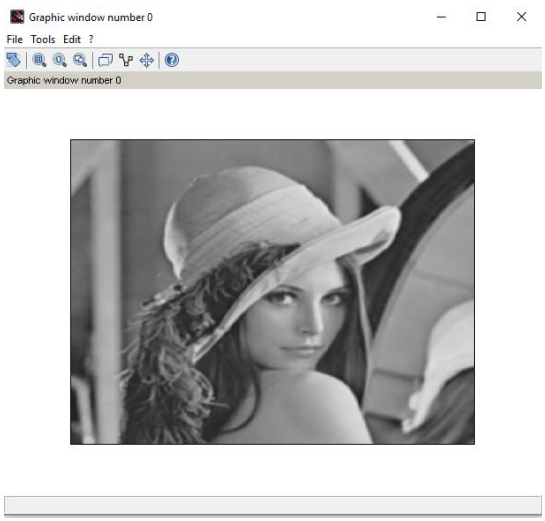
5. GAUSSIAN LOW PASS FILTER.

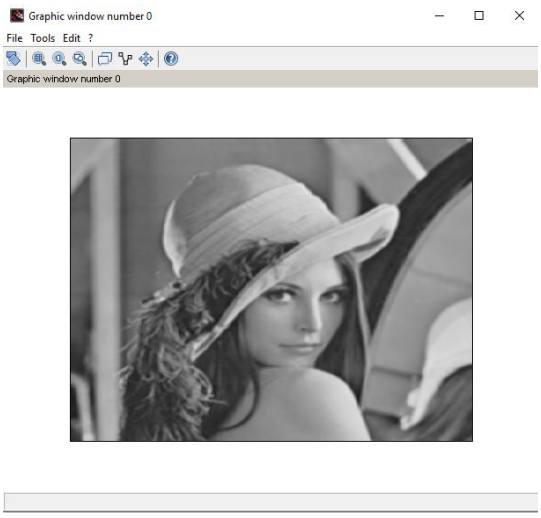
PROGRAM:

```
clc;
a = imread('lena.png');
// c o n v e r s i o n of RGB to YIQ fo rma t
yiq = rgb2ntsc(a) ;
// E x t r a c t t h e Y component a l o n e
b = yiq(: ,: ,1) ;
h = [ 1 , 1 , 1; 1 ,8 , 1; 1 , 1 , 1]/9;
// Pe rfo rm hi g h p a s s f i l t e r i n g o nl y on Y component
c1 = convol2d(b , h);

h2 = 1/25.*ones(5,5);
c1 = imfilter(b,h2);
imshow(c1);

[m , n ]= size(b);
for i =1: m
        for j =1: n
                D(i , j) = c1(i , j );
        end
end
imshow(D);
yiq(: ,: ,1)= D;
// c o n v e r t YIQ to RGB fo rma t
a1 = ntsc2rgb(yiq);

imshow(a);
imshow(a1);
```

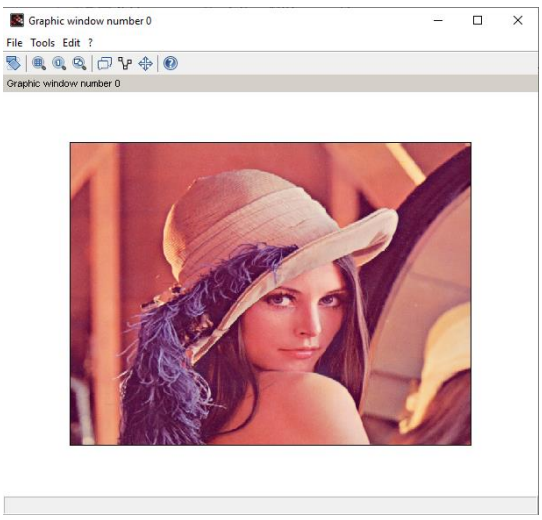
OUTPUT:



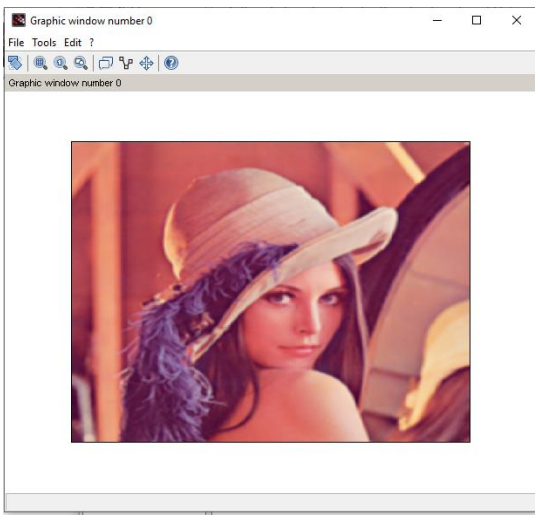
(Fig:1)imshow(cl);



(Fig:2)imshow(D);



(Fig:3) imshow(a);



(Fig:4) imshow(al);