

```

clc;clear

%Read the Image
img = imread('lenna.gif');

%Subfactor the image by the desired value:
sf = 2 ;

% determine the size of the image to use it in the loop
[row,column]= size(img);

% % Subsample the image
subsamped_img = img(1:sf:end, 1:sf:end);

% rescaled image
rescaled_img = zeros(row, column, 'like', img);

for i = 1:sf:row
    for j=1:sf:column
        if i+sf > row | j+sf > column
            break
        end
        rescaled_img(i:i+sf, j:j+sf)= img(i,j);
    end
end

% Display the original and rescaled images side by side
montage({rescaled_img,img})

```

