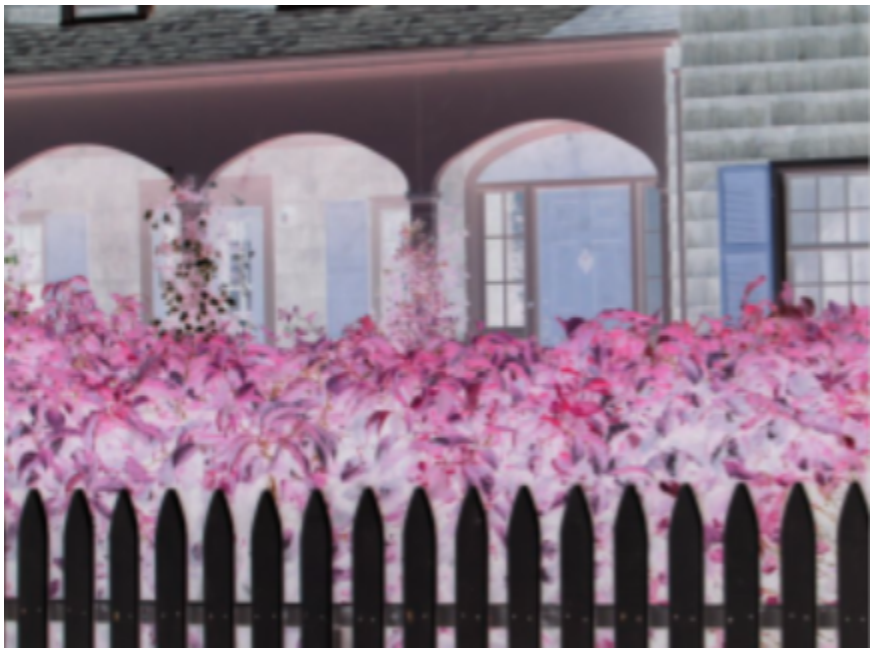
1. Load and analyze the image

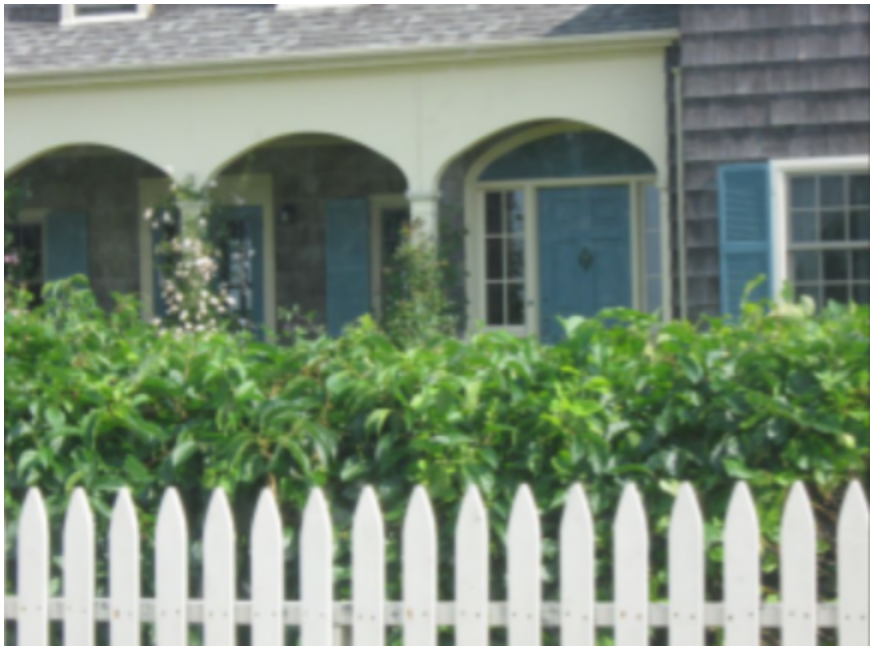
```
(cv-env) huangyuwai@MacBookPro HW1 % python Assignment1.py
Image data type: <class 'numpy.ndarray'>
Pixel data type: uint8
Image dimensions: (321, 433, 3)
```

2. Create a red image

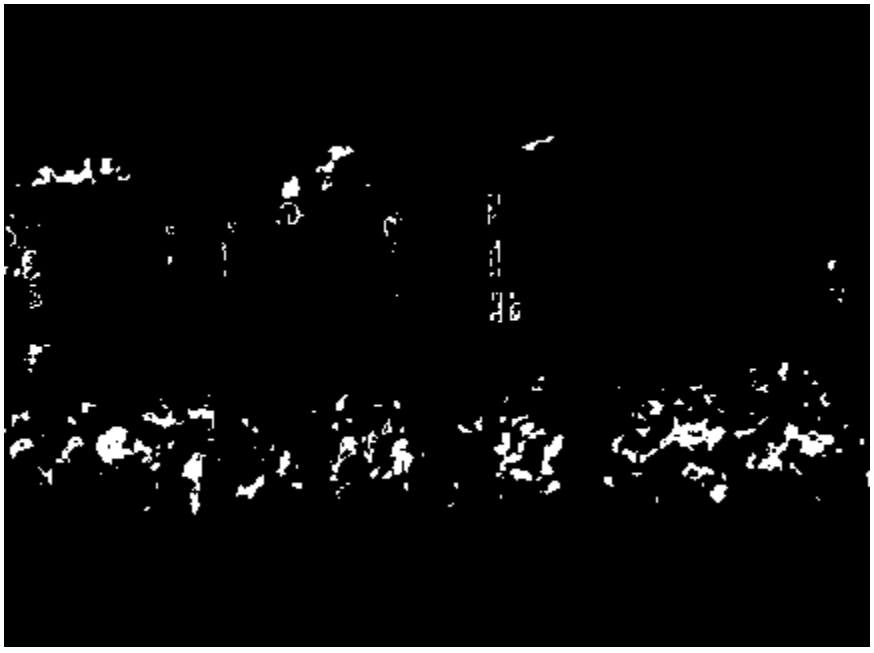
3. Create a photographic negative



4. Swap color channels

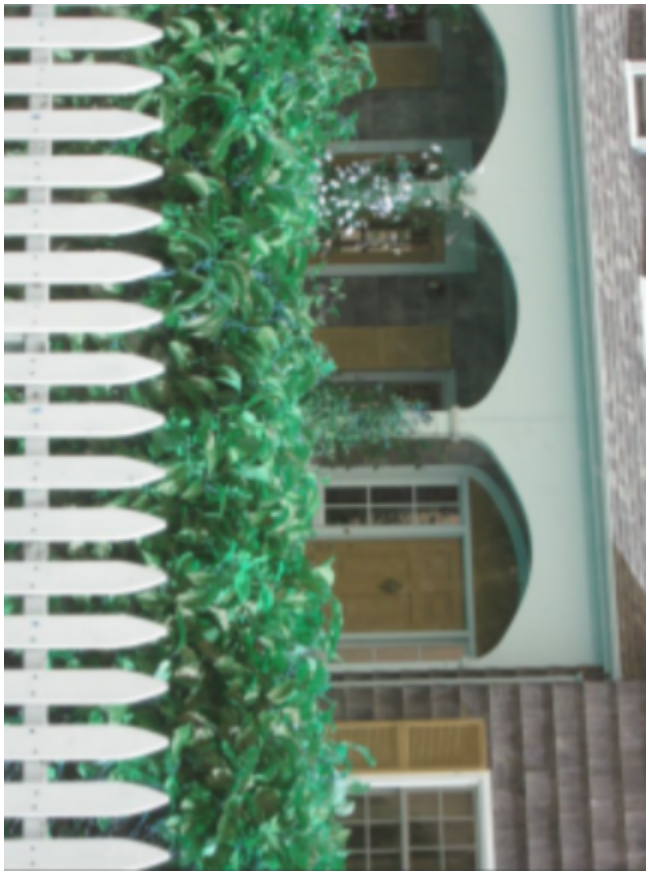


5.Foliage detection

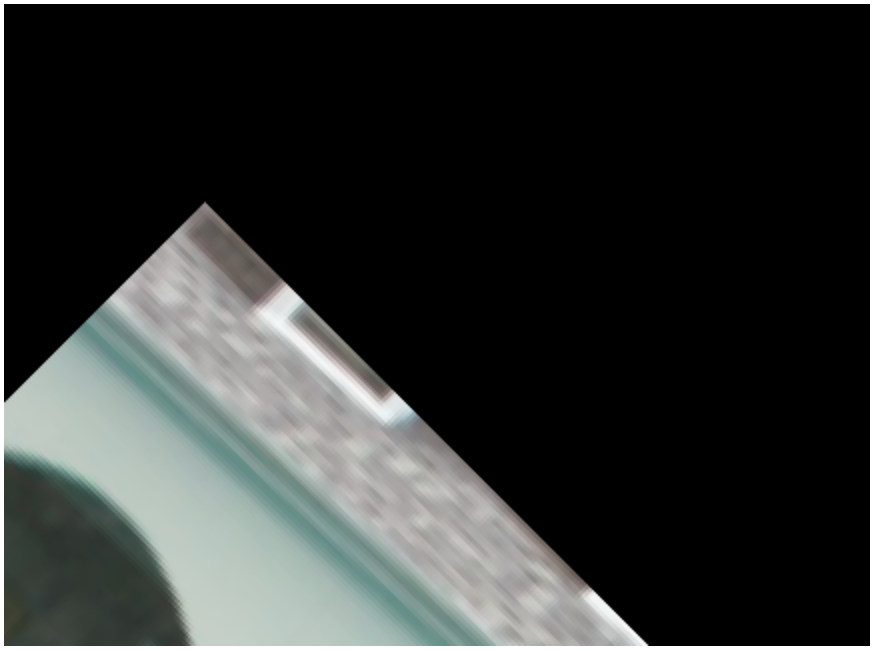


6.Shift the image

7.Rotate the image



8.Similarity transform



9.Grayscale conversion

10. Moments of a binary image

```
First-Order Moments:
Standard (Raw) Moments: M00 = 3006960.0, M10 = 1432355910.0, M01 = 575000265.0
Centralized Moments:
x_bar = 476.34684531886023, y_bar = 191.22311736770692
Second-Order Centralized Moments:
mu20 = 35161031847.67471, mu02 = 15134711034.44242, mu11 = 14713466709.74135
```

11.Orientation and eccentricity of a binary image