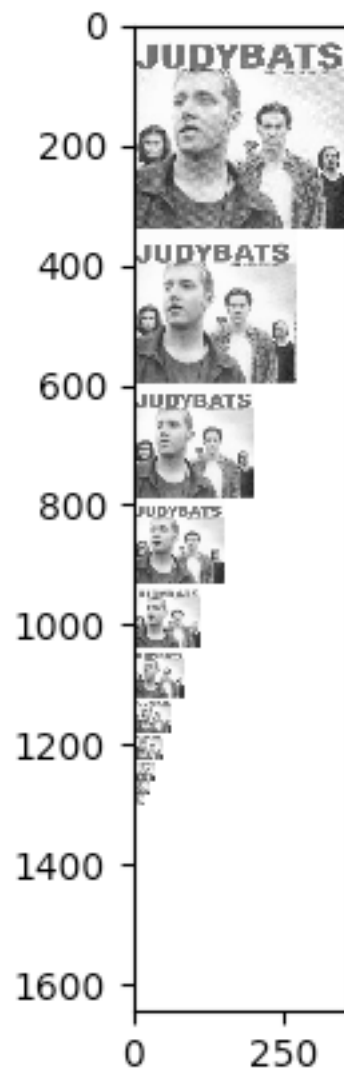


```

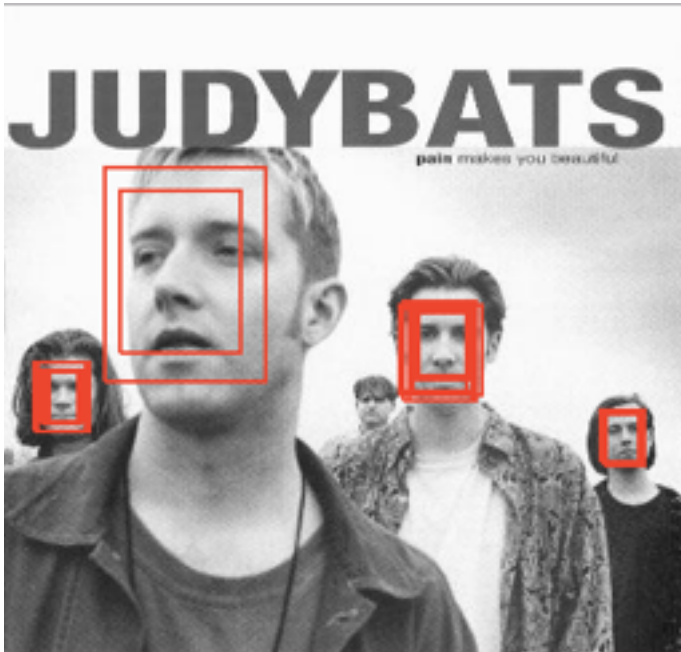
ch file or directory
dhcp-128-189-193-15:hw2 dengyue$ python A2.py
/Users/dengyue/Desktop/3-rd term2/cpsc425/assignment/hw2/ncc.py:59: RuntimeWarni
ng: divide by zero encountered in divide
nxcorr = np.where(denom < tol, 0, numer/denom)

```

3.



5. threshold = 0.53  
(1)



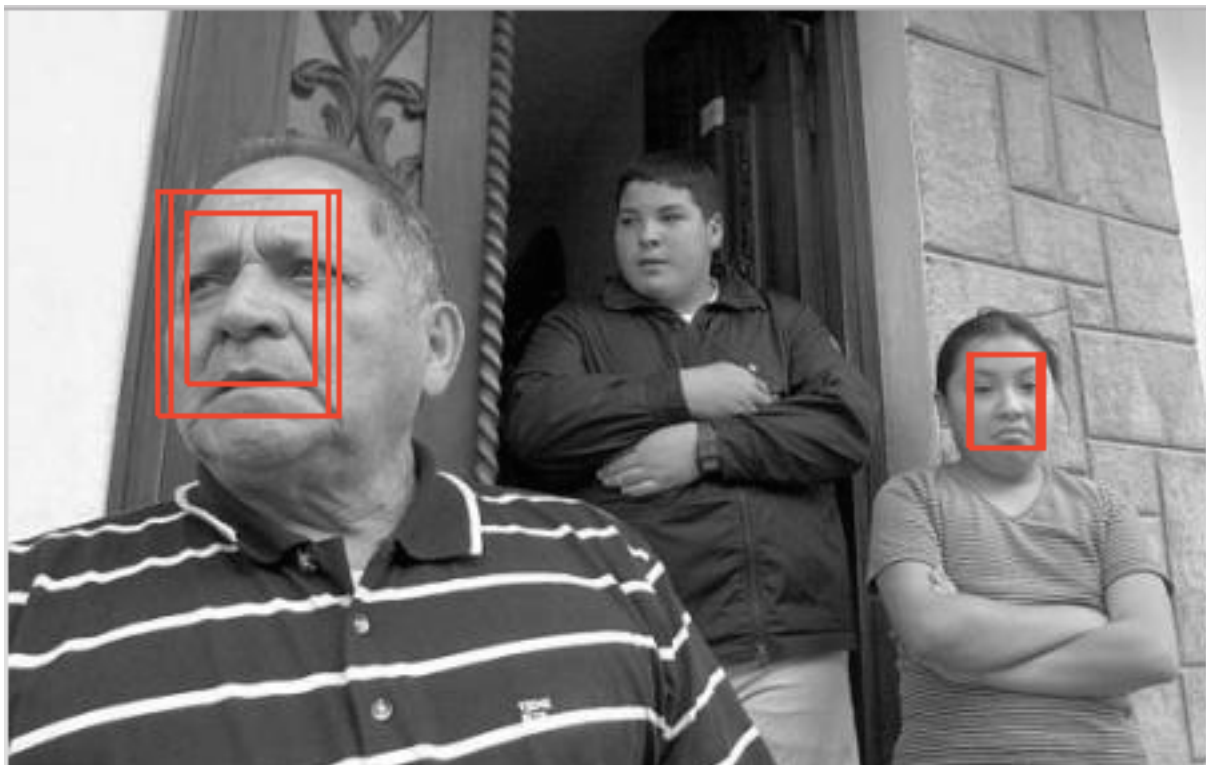
(2)



(3)



(4)



(5)



(6)



6.

(1) recall rate =  $4/5$

(2) recall rate = 23/27

(3) recall rate = 0/3

(4) recall rate = 2/3

(5) recall rate = 0/1

(6) recall rate = 0/0

The image (3)(5) have really low recall rate

possible reasons:

1. Different light condition, the intensity is really different from the template, the faces on the images darker
2. Different orientation the faces on the image is rotated, not as the same direction as the template (for example: the fans face in fan image)
3. Different perspective