Note: I am Using Scipy v1.1.0. In case of any errors you can install scipy 1.1.0 by the following command: pip install scipy==1.1.0

In [1]:
```
import scipy
scipy.__version__
```

Out[1]:
```
'1.1.0'
```

To download images Click on this url: https://drive.google.com/drive/folders/1pcaTwofZGfoCxZ3Hv2X6vW6xf_1i88eb?usp=sharing (https://drive.google.com/drive/folders/1pcaTwofZGfoCxZ3Hv2X6vW6xf_1i88eb?usp=sharing)

Analysis of Image using Histogram in Python

Import Libraries

In [2]:
```
from skimage import data
from scipy.misc import imread, imresize
import numpy as np
from scipy import ndimage
import matplotlib.pyplot as plt
```

Original Image

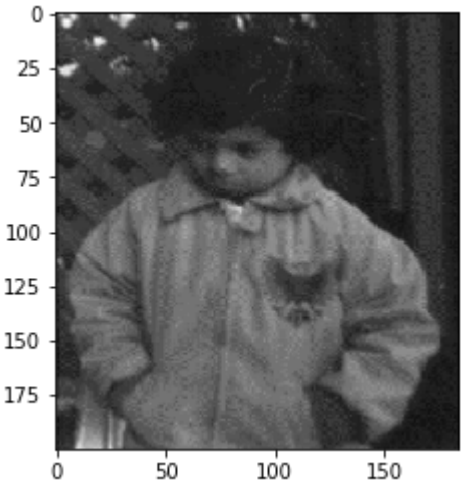
In [3]:
```
original_image =imread('low_contrast_image_histogram.png',False, 'L')    #read image as grey scale image
```

```
C:\ProgramData\Anaconda3\lib\site-packages\ipykernel_launcher.py:1: DeprecationWarning: `imread` is deprecate
d!
`imread` is deprecated in SciPy 1.0.0, and will be removed in 1.2.0.
Use ``imageio.imread`` instead.
  """Entry point for launching an IPython kernel.
```

Processed Image

In [4]:
```
processed_img =original_image.copy()
plt.imshow(processed_img,cmap=plt.cm.gray)
```

Out[4]:
```
<matplotlib.image.AxesImage at 0x21b9c37db08>
```

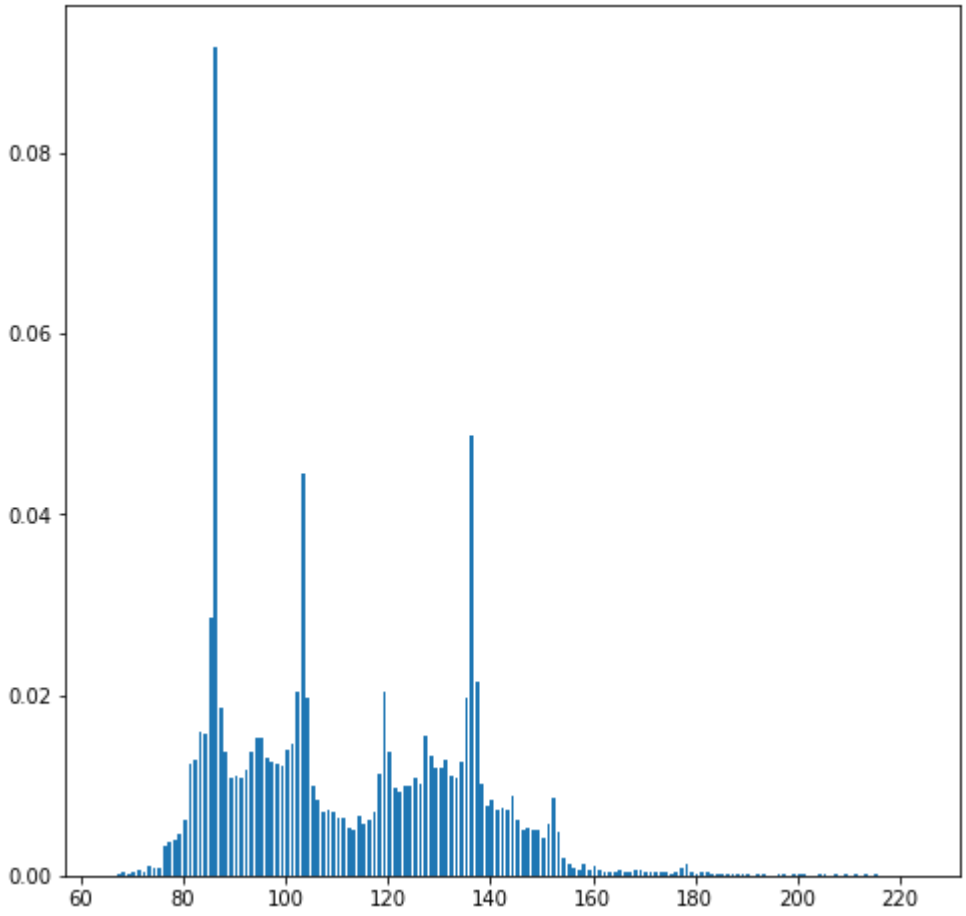


Finding Probabilities

In [5]:
```
greylevels, counts = np.unique(processed_img, return_counts=True)
prob=counts/sum(counts)
x,y=greylevels,prob
```

Normalized Histogram

In [12]:
```
plt.figure(figsize=(8,8))
plt.bar(x,y,align='edge',width=0.7)
plt.show()
```



Simple Histogram

In [11]:
```
plt.figure(figsize=(8,8))
plt.hist(processed_img.flatten(),bins=256,range=[0,255],width=0.5)
plt.show()
```