1. What is the weight that EM assigns to the first component after running the above codeblock?

0.300

2. Using the same set of results, obtain the mean that EM assigns the second component. What is the mean in the first dimension?

4.942

3. Using the same set of results, obtain the covariance that EM assigns the third component. What is the variance in the first dimension?

0.671

4. Is the loglikelihood plot monotonically increasing, monotonically decreasing, or neither?

**Monotonically increasing**

Monotonically decreasing

Neither

5. Calculate the likelihood (score) of the first image in our data set (img[0]) under each Gaussian component through a call to `multivariate\_normal.pdf`. Given these values, what cluster assignment should we make for this image?

Cluster 0

Cluster 1

Cluster 2

**Cluster 3**

6. **Two** of the following images are **not** in the list of top 5 images in the first cluster. Choose these two.

**Note. If more than two of the images below appear in the top, make sure that the code for visualization matches the following block.**

Image 1

**Image 2**

Image 3

Image 4

Image 5

Image 6

**Image 7**