Week 5 02506
Quiz Spring 2022

Consider an image

1	2	6	4	10	8
4	1	3	5	9	6
5	2	3	5	4	7

which is to be segmented into three segments: 1, 2 and 3. The segments are estimated to have mean intensities $\mu_1 = 2$, $\mu_2 = 5$ and $\mu_3 = 10$. We use an MRF framework as in the lecture note, and we choose to set $\beta = 10$.

1. What is the prior energy of the maximum likelihood solution?
2. What is the likelihood energy of the configuration where the leftmost two columns are labeled as belonging to the segment 1, middle two columns are labeled as belonging to the segment 2, and rightmost two colums are labeled as belonging to the segment 3?
3. What is the posterior energy of the maximum a posteriory solution? (Write the smallest energy, which you could find.)

This week's quiz can be solved using pen and paper – or by using the functions developed for the exercises.

Submit your answers (this week, only integer numbers) in a text file with the first three lines formatted as below:

```
prior_noisy: 55
likelihood_stripes: 55
posterior_small: 55
display_name: AndersAnd
```