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**#1001387435**

**>> k\_means\_cluster yeast\_test.txt 2 5**

After initialization: error = 123.6837

After iteration 1: error = 118.2282

After iteration 2: error = 116.0653

After iteration 3: error = 112.2610

After iteration 4: error = 110.9597

After iteration 5: error = 110.5714

**>> k\_means\_cluster yeast\_test.txt 3 5**

After initialization: error = 123.4285

After iteration 1: error = 108.5555

After iteration 2: error = 105.0388

After iteration 3: error = 104.3020

After iteration 4: error = 104.0985

After iteration 5: error = 104.0937