Lecture 21: Texture Synthesis – Review Questions

- The final programming assignment involves a neighborhood based algorithm for texture synthesis. Describe this algorithm.

- The lecture slides show a spectrum of textures, ranging from highly stochastic to highly structural. For what part of the spectrum is the texture synthesis algorithm in programming assignment #4 best suited? For what parts of the spectrum may it perform poorly? Explain your answer.

- What modifications to the algorithm are needed:
  o to encourage copying of coherent patches from the input texture?
  o for hole filling?
  o to get the output to have colors similar to a target image?
  o to do image processing by analogy (e.g. make a photo look like a watercolor picture)?
  o to produce a long animation from a shorter animation? (Hint: think of a movie as a 3-dimensional texture.)

- Explain an algorithm for multiresolution texture synthesis? Why might this be useful?