Quiz Computer Vision

1. Develop program to tracking the object with several specific color (example 3 object with different color) . Try to find a way to extract more than one colored objects, for e.g., extract red, blue, green objects simultaneously.
2. Load an interesting image. Then blur it with cvSmooth() using a Gaussian filter.
   a. Set param1=param2=9. Try several settings of param3 (e.g., 1, 4, and 6). Display the results.
   b. Th is time, set param1=param2=0 before setting param3 to 1, 4, and 6. Display the results. Are they different? Why?
   c. Again use param1=param2=0 but now set param3=1 and param4=9. Smooth the picture and display the results.
   d. Repeat part c but with param3=9 and param4=1. Display the results.
   e. Now smooth the image once with the settings of part c and once with the settings of part d. Display the results.
   f. Compare the results in part e with smoothings that use param3=param4=9 and param3=param4=0 (i.e., a 9-by-9 fi lter). Are the results the same? Why or why not?

3. Use a camera to take two pictures of the same scene while moving the camera as little as possible. Load these images into the computer as src1 and src1.
   a. Take the absolute value of src1 minus src1 (subtract the images); call it diff12 and display. If this were done perfectly, diff12 would be black. Why isn't it?
   b. Create cleandiff by using cvErode() and then cvDilate() on diff12. Display the results.
   c. Create dirtydiff by using cvDilate() and then cvErode() on diff12 and then display.
   d. Explain the diff erence between cleandiff and dirtydiff.

4. Make an application that reads and displays a video and is controlled by sliders. One slider will control the position within the video from start to end in 10 increments; another binary slider should control pause/unpause. Label both sliders appropriately.