Assignment 1: **Find the centroid of the star image intensity**

In this assignment, you are required to write a LabVIEW code to find the centroid, based on this star image intensity. Since the star intensity is Gaussian function, you can use the LabVIEW function

IMAQ Centroid (in the Vision and Motion/Image Processing/Analysis fold) to find the (x,y) coordinate of the star.

Find the (x,y) centroid position of this image, and draw a point on this position (using the function IMAQ Overlay Points). Using 2 image display windows to show this image without and with the centroid point overlapped.

(You need to download the star image).

Assignment 2: **Find the Pattern**

In this assignment, you are required to write a LabVIEW code to do the pattern match in each frame of a video file. To do this, you need to select a small part of this picture as template in the first frame of the picture. Then:

(1) Find the (x,y) position of this template in each frame, and draw a circle on this position in each frame.

(2) Show each frame with the circle overlapped, one frame after the other, which form a new video file, and show this pattern process in a image display window (you may put a time delay to slow the display speed)

(You can use the “read avi file” code as a starting point)