Instructions: Please examine the movement shown below (takeoff of the standing long jump). This is the same movement that you analyzed earlier this semester for joint actions, planes, and axes. Now you get to analyze which muscles are primarily responsible for this movement.

**Note:** Do not analyze which muscles were used to get into position a, just the movement itself beginning with position a. Please answer the following questions:

1. What are the major joint actions?
2. What are the major muscle groups (e.g., elbow flexors, hip abductors, etc.) that are active (and why)?
3. Based on your answer to #2 above, which individual muscles are most active and what are their roles in the movement (e.g., agonist for elbow flexion, antagonist for hip abduction, etc.). Justify your answers.

You are to include the whole body (upper extremity muscles, lower extremity muscles, and torso muscles) in your analysis. It is suggested that you organize your answers in a table such that under each joint action (in 1) you list the appropriate muscle group, if applicable (in 2) and below that list the individual muscles and their roles (in 3). **All answers must be typed.**

**Due Date:** Tuesday December 9 at 9:15 AM.

Please make a copy of your assignment before you turn it in. Solutions will be posted on 12/9 on the class web page for you to download and print. Note: You will not get your graded assignments returned to you before the final exam on 12/11.