A web page which can help you with this assignment will be linked to the course webpage. You are encouraged to discuss this assignment with other students and with the instructor, but the work you hand in should be your own.

Every student will receive by e-mail a message containing the coordinates for three points, \( p \), \( q \), and \( r \), in \( \mathbb{R}^3 \). Then \( \overrightarrow{pq} \) will denote the vector directed from \( p \) to \( q \) and \( \overrightarrow{pr} \) will denote the vector directed from \( p \) to \( r \). The vector \( \overrightarrow{v} \) will be \( \overrightarrow{pq} \times \overrightarrow{pr} \), the cross product (vector product) of the two vectors. \( T \) will be the triangle in \( \mathbb{R}^3 \) whose vertices are \( p \), \( q \), and \( r \).

Use Maple to compute \( \overrightarrow{pq} \), \( \overrightarrow{pr} \), and \( \overrightarrow{v} \). Use Maple to sketch these three vectors and the triangle \( T \) in one picture.

This assignment is due Monday, October 2.

Please hand in the following material:

0. All pages should be labeled with your name and section number. Also, please staple together all the pages you hand in.

1. A printout of all Maple instructions you have used. (Yes, you may and should “clean up” by removing the instructions that had errors together with their responses.)

2. Identify clearly in your printout the components of the vectors \( \overrightarrow{pq} \), \( \overrightarrow{pr} \), and \( \overrightarrow{v} \). (These identifications can be done “by hand” on your printout.)

3. Hand in a printout of a picture of the three vectors and the triangle \( T \). The picture should include labeled axes and should show the geometry of the situation well. Label the points \( p \), \( q \), and \( r \) in your picture. Label the vector \( v \) in your picture. Label the triangle \( T \) in your picture. (These labels can be done “by hand” on your printout.)