Mathematics II Project
CITM - UPC

List of all the functions implemented:

1) Eaa2rotMat.m

   Explanation: This function transforms the Euler Principal Angle and Axis to a Rotation Matrix.
   Inputs: Euler P. Axis [3, 1], Euler P. Angle [1, 1].
   Output: Rotation Matrix [3, 3].

2) Quat2rotMat.m

   Explanation: This function transforms the Quaternion to a Rotation Matrix.
   Input: Quaternion [4, 1].
   Output: Rotation Matrix [3, 3].

3) eAngles2rotM.m

   Explanation: This function transforms the Euler Angles to a Rotation Matrix.
   Inputs: Euler Angle Phi [1, 1], Euler Angle Theta [1, 1], Euler Angle Psi [1, 1].
   Output: Rotation Matrix [3, 3].

4) rotVec2rotMat.m

   Explanation: This function transforms the Rotation Vector to a Rotation Matrix.
   Input: Rotation Vector [3, 1].
   Output: Rotation Matrix [3, 3].

5) rotMat2EAA.m

   Explanation: This function transforms the Rotation Matrix to the Euler Principal Angle and Axis.
   Input: Rotation Matrix [3, 3].
   Outputs: Euler P. Axis [3, 1], Euler P. Angle [1, 1].

6) rotM2Quat.m

Explanation: This function transforms the Rotation Matrix to the Quaternion.

Input: Rotation Matrix [3, 3].

Output: Quaternion [4, 1].

7) rotM2eAngles.m

Explanation: This function transforms the Rotation Matrix to the Euler Angles.

Input: Rotation Matrix [3, 3].

Outputs: Euler Angle Phi [1, 1], Euler Angle Theta [1, 1], Euler Angle Psi [1, 1].

8) rotM2rotVec.m

Explanation: This function transforms the Rotation Matrix to the Rotation Vector.

Input: Rotation Matrix [3, 3].

Output: Rotation Vector [3, 1].