# Torque calculation for the motor

The mechanism and the methodology to find the linkage lengths of the mechanism was from Hassanalian et al.,[1]. A six bar linkage mechanism with a single crank is used. As an initial input for the linkage length determination, the linkage lengths of the model used in[1] were scaled up. Then, the flowchart in [1], which was used to determine the linkage lengths of the model in [1], was used here to finalize the linkage lengths. In addition to this, parameters like the flapping angle and the angular velocity of the flapping arm were found out as a function of time for one period (0 to 2\*pi).

The angular velocity of the crank was set as w = 2\*pi\*f where f is the flapping frequency. The torque was found using the formula P = t x w where t is the torque of the crank.