**Learning Objectives:**

* State the concepts of dynamic analysis of slider crank mechanisms
* Understand the significance of parameter and select the variable accordingly.
* Calculate the velocity, acceleration and force acting on each link.
* Examine the calculated values with the simulation results
* Evaluate how change in length, angle and driving force results in change of acceleration, velocity and work done by the mechanism

**Theory:**

The slider crank mechanism is one of the most basic forms of closed loop mechanisms, it is modification of the basic four bar chain. It has a single degree of freedom and is often used to convert rotary motion into linear motion by varying link lengths. It is, usually, found in reciprocating steam engine mechanism. From an application perspective it is very important to understand the dynamics of such a system. The kinematics of the system is largely governed by the link length and so is the dynamics of the system.

Through the process of the simulation, one would understand how to calculate the forces on each link for a constant angular velocity as input. The dynamic analysis of the slider crank mechanism is covered after understanding the kinematic analysis since the acceleration of the links are required to calculate the forces on the link.