# Abstract

**Aim:** Program a welding robot such that it takes a sequence of weld points (i.e., way points) in3D at which the welding is to be performed.

**Initially proposed:** Simulate the above with a 3R robot in a 3D space.

**Partially Successful:** Simulate a 3R manipulator in a planar space (2D).

**Achieved Milestone:** Simulated an L shaped weld with a 2R robot in a 2D space.

Using Inverse kinematic model to derive the angle between the joints were calculated for two different configuration righty and lefty. The weld is split into multiple way points and for each point joint angles are calculated and adjusted accordingly. In this manner any co ordinates can be worked in the first and fourth quadrant for righty quadrant, lefty configuration for third and second quadrants. The only limitation here is that the area under the first circle cannot be reached.