Robot Fanuc LR Mate 200iC

Reference:

1. Fanuc page https://www.fanucamerica.com/cmsmedia/datasheets/LR%20Mate%20200iC%20Series_10.pdf
2. DH table and schematic: https://researchgate.net/publication/269270372_Study_and_validation_of_singularities_for_a_Fanuc_LR_Mate_200iC_robot
3. URDF: https://github.com/sezan92/Fanuc

Application:

1. Run Demo4.m in main
2. Enter Valid Positions XYZ, Rotation RPY, and Mass Load
3. Click Sim to start simulation
4. When Sim is clicked, the new input will not be accepted until the movement is finished (fixed time, including gravitational compensation calculation)
5. Use clear plots when needed (backup function for preventing data overflow)

Note:

1. Invalid position values will be set to home configuration
2. Invalid mass load will be set to 0
3. Invalid rotation values will not be considered during inverse kinematics calculation, analytical jacobians would be used to calculate inverse kinematics.

Sample Inputs to try:

	PositionX	PositionY	PositionZ	Roll	Pitch	Yaw	Load
Trial 1	NaN	NaN	NaN	NaN	NaN	NaN	NaN/0
Trial 2	NaN	NaN	NaN	NaN	NaN	NaN	10
Trial 3	0.5	0.5	0.5	NaN	NaN	NaN	NaN/0
Trial 4	NaN	NaN	NaN	0	0	0	NaN/0
Trial 5	0.3	0.3	0.3	0	0	0	10
Trial 6	5	5	5	NaN	NaN	NaN	NaN/00

Note:

1. Trial 1&2 is gravity compensation, Trial 6 out of reach situation
2. For NaN, type NaN in the textbox or leave the textbox to the original text (cannot be number 0)
3. IK may not be solved, needs more time to work on it.