MCL-745: Parallel Robotics Lab Sheet

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Consider the Alea robot with the following setup

			Leg1	Leg2	Leg3	Leg4	Leg5	Leg6
Roll	0	Px	100	50	-87	-100	-50	87
Pitch	0	Py	0	87	50	0	-87	-50
Yaw	0	Pz	0	0	0	0	0	0
X	0	Bx	150	75	-130	-150	-75	130
Y	0	By	0	130	75	0	-130	-75
Z	300	Bz	0	0	0	0	0	0

Do the following:

- Find out the leg lengths.
- Compute the kinematic Jacobean.
- Compute the determinant of the kinematic Jacobean.
- Find the position of the platform by using the Jacobian if lengths of legs 2, 3 and 6 are increased by 5% in steps of 1 %.
- Compare the leg lengths at each step with that obtained by the Jacobian.