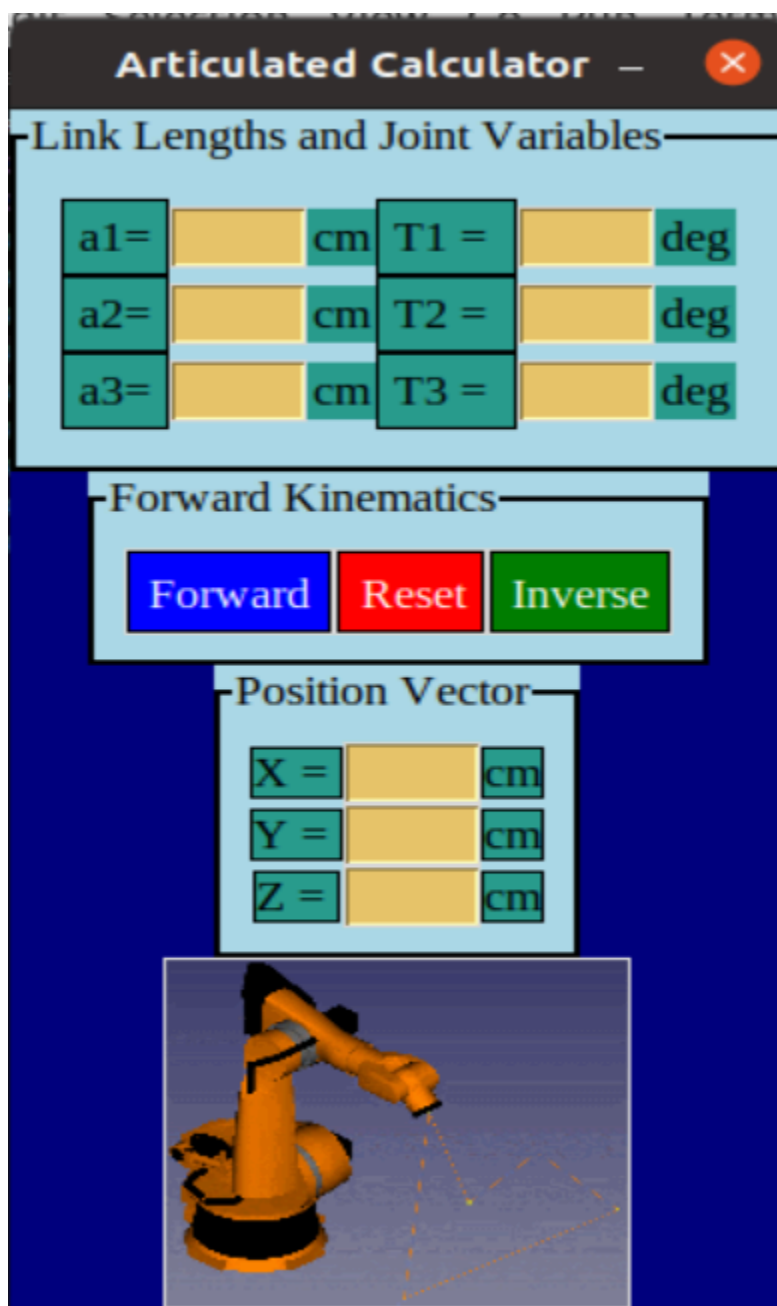### VII. FORWARD AND INVERSE KINEMATICS GUI CALCULATOR

GUI calculator is only a calculator but one can use it by clicking buttons, not by typing something like in python print(2+2), and then will get the result as 4 in the black and white environment. In the GUI calculator, all its operators and numbers are represented graphically and one can click it and use it. GUI is simply a visual and more easy-to-use way to interact with a computer, example: one will easily click a button to know what time it is. But it will be more complex to type "time" to get the current time.

Below figure is the calculator created using python, it is used to compute an articulated manipulator's forward and inverse kinematics.

Simulation of Calculators

(https://drive.google.com/file/d/1XRXWK5P27zj8uTAFQfOhpmAZgihVD4It/view?usp=sharing)