Goal 2: Jumping up onto a higher level surface such as a table.

Add constraint (1,0) --> (1,1) --> (2,1).

**4/20:**

Notice a significant performance improvement when values of elements of the control (u1 and u2) are relatively in the same range. We would have a very bad performance if there is a huge discrepancy in values of u1 and u2. This is because the incremental update \Delta U has little to no effect on the larger element of the control yet a significant impact on the smaller component, making the sequential improvement of U extremely slow and difficult.

For example, any incremental adjustment of the below vector has a negligible effect on the x-component while considerable effect on the y-component. --> need to scale them accordingly!

**4/24:**

Without switching consideration: steering to the target (part1) is resolved much faster with lower energy (norm(u)=22.5745). However, there is almost no energy improvement in part 2 ((norm(u)=22.5681). Despite having a smaller norm(u), the simulation (after part2) looks very artificial (opposed to normal expectations) and somewhat non-economical due to multiple switchings (intermitance). --> If the model are perfect and multiple switching is allowed, then this approach is appropriate.

With switching consideration: although the steering process (part1) is slower, its overal time is acceptable. Part1: norm(u)=30.5603, part2: norm(u)=24.1357. The simulation (after part2) seems quite natural yet poses a higher energy than that of the case without switching consideration.

All norm(u) in this study are bounded by a cost of 0.01.