	Hishan	+ Bharali	Pro	olen-Sel			
4-11	We contained the	on see joint 0 affect our AATLAB roblem 2_2 on Problem a companing one 3 (2.3 (end-le Code	fector to is ment	the sist V attach	ed in Cany	AS
•	vectors	en b = 6	;0;0	;0;0			N
	final joint position $\theta_{4} = \begin{bmatrix} -1.5145 \\ 0.3001 \end{bmatrix}$						
				0.7961	2		
	When	$b = \left[-\theta \right]$	0 0	00]		-4	
Finel	9 = + z	- 0.7106 - 0.9562					
		1.4159 1.4820 -1.1989					
	and the state of t				entermonal tales and an entermone or movement an entermone		Separate Sep

Heren we contisee por some in . averanous snake robot with a few parts 10,10 = 10,3106. for secondary objective (b. > equation 4) is smaller than 10,1= 1:5145 for b = [00000] (primary objective). * Limpsones beautiful operionity of the solid We might want to minimize the first joint angle (0,) because we know the null-space is an internal joint relocity that doesn't affect the end-effector twist V but provides additional joint vedocities and & move the joint space In the video, we still have unchanged end-effector positioning with a change in joint vedocity in joint 0,. O, causes the most moment, so it needs a powerful actuator as other joints relay over its motion and positions.

Practical benfits: We create a clearance that helps prevent collisions blu robot arm & its surroundings We can avoid singularities, especially in this
case a redundant snake robot with 5-joints, where singularities can occur causing problematic robot control. Thus, reducing 8. (or first joint angle) can avoid such cases giving strong control. Improved reach and dexterity (in tight confined parces) at month of the second of the Improved mortespace utilization. · Smoother trajectories Energy efficient.