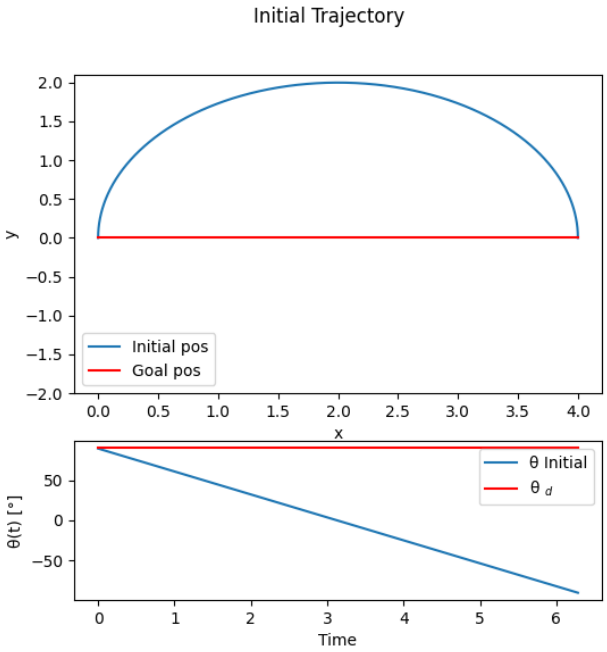
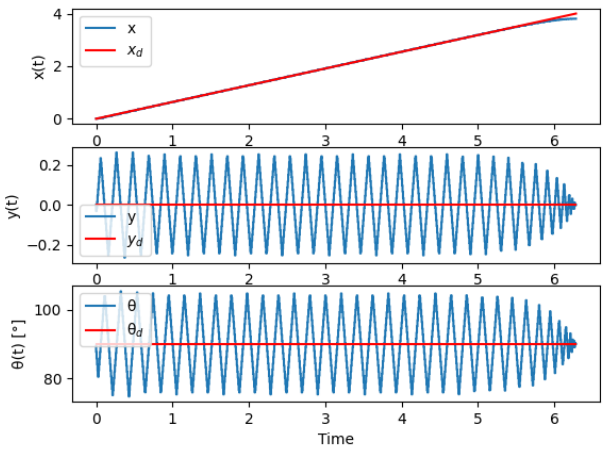
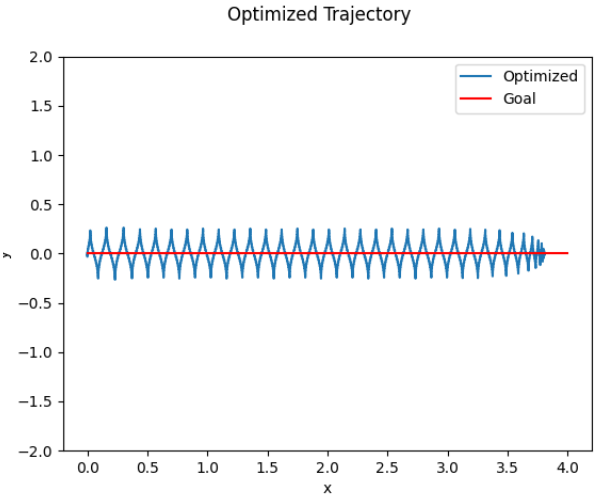
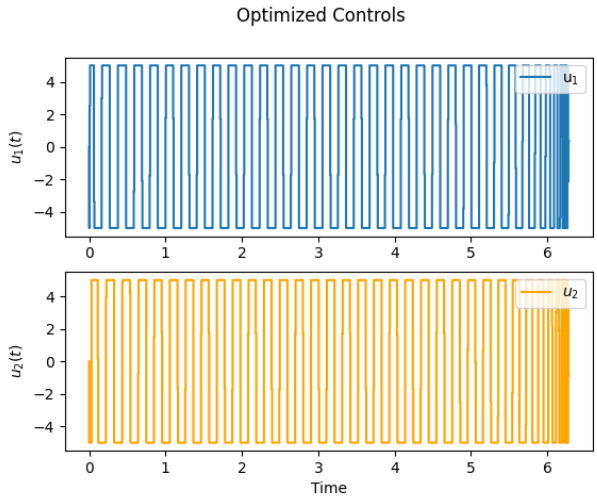
Homework 1 – Joris Chomarat

Problem 1

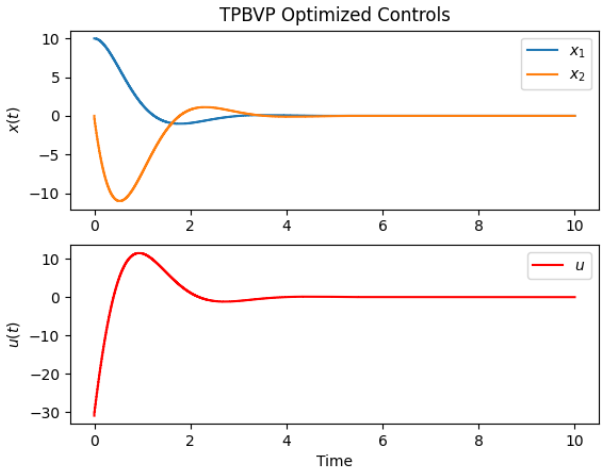








Problem 2



$$\frac{d}{dt}z(t) = Az + Bv, v(t) = a * sin(\frac{2pi * b}{n}t) + c$$

Idx	a	b	c	$DJ(x_{sol}(t), u_{sol}(t)) * \zeta(t)$
1	1	1	0	5.41e-07
2	1.3	-1.1	0.2	3.509e-06
3	1.69	1.21	0.5	-1.3514e-05
4	2.197	-1.331	0.95	1.3728e-05
5	2.856	1.464	1.625	-2.1176e-05
6	3.713	-1.611	2.638	-1.8022e-05
7	4.827	1.772	4.156	3.2745e-05
8	6.275	-1.949	6.434	-0.000113233
9	8.157	2.144	9.852	3.0749e-05
10	10.604	-2.358	14.977	-4.0197e-05

Problem 3