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%************Orbital Mech. HW 4, Alan Tsai and Vivek Suthram***********

% Define initial and final positions, time intervals
r0_1 = [0.5; 0.6; 0.7];
r1_1 = [0.0; 1.0; 0.0];
dt1 = 0.9667663;
[v0_1, v1_1] = lambert(r0_1, r1_1, dt1, -1);
fprintf('v0long: [%.3g, %.4g, %.4g], v1long: [%.3g, %.3g, %.3g]\n', ...
    v0_1(1), v0_1(2), v0_1(3), v1_1(1), v1_1(2), v1_1(3));
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v0long: [-0.631, -1.114, -0.8828], v1long: [0.179, 1.55, 0.25]
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r0_2 = [1.0; 0.0; 0.0];
r1_2 = [1.0; 0.125; 0.125];
dt2 = 0.125;
[v0_2, v1_2] = lambert(r0_2, r1_2, dt2, 1);
fprintf('v0short: [%.3g, %.4g, %.4g], v1short: [%.3g, %.3g, %.3g]\n', ...
    v0_2(1), v0_2(2), v0_2(3), v1_2(1), v1_2(2), v1_2(3));
```

```
v0short: [0.0619, 1.003, 1.003], v1short: [-0.0609, 0.995, 0.995]
```