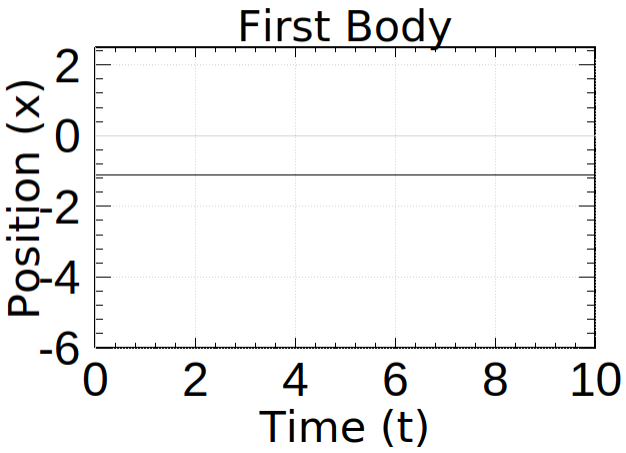
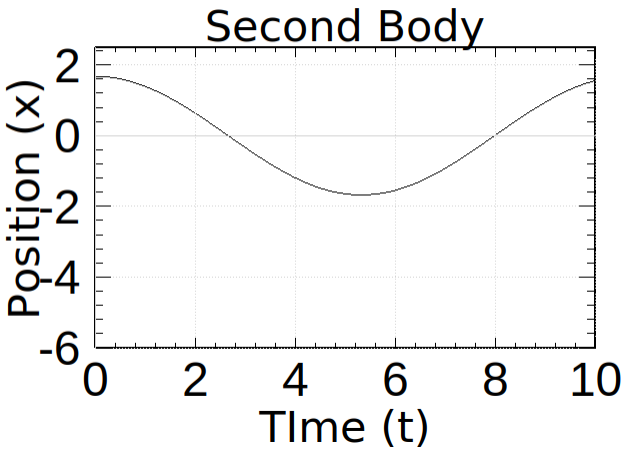
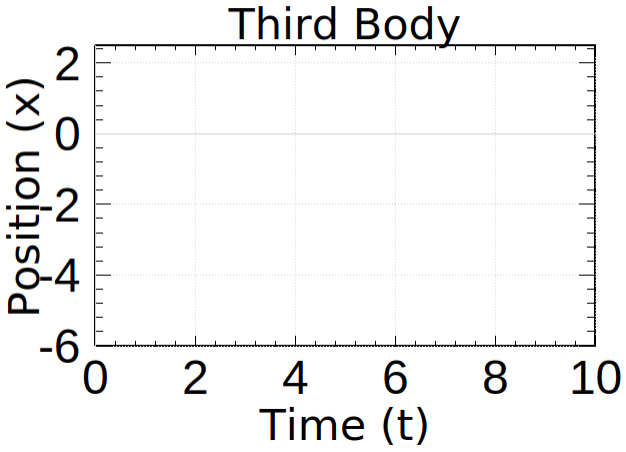
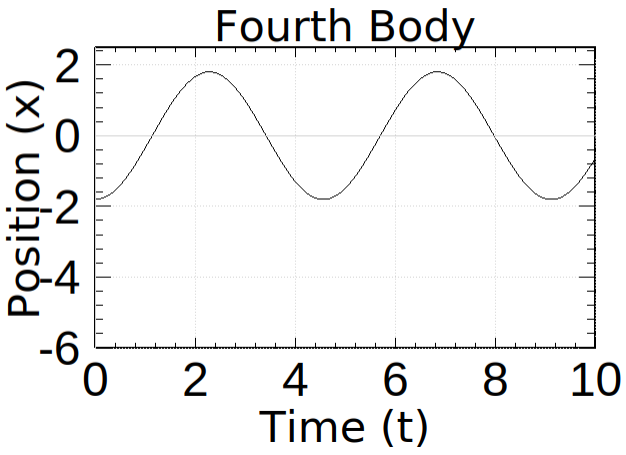
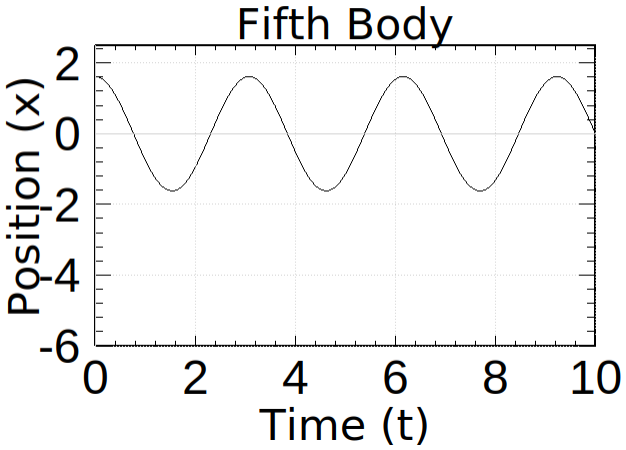
Assignment 4

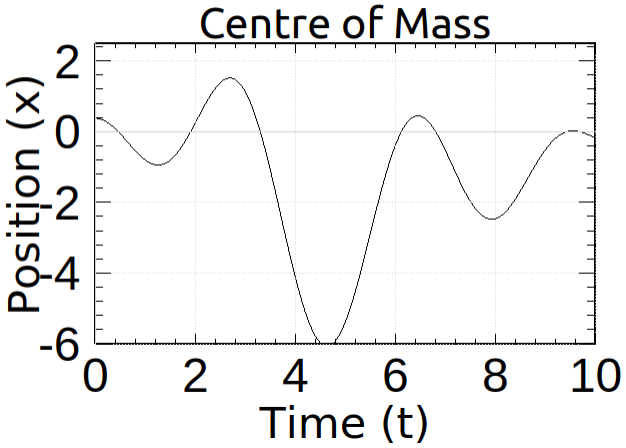




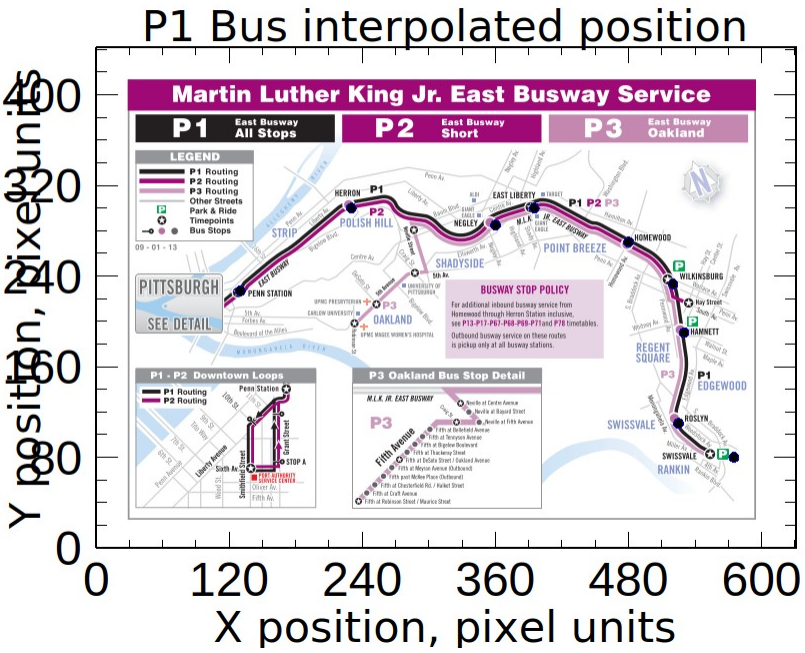



Fourth Body
Position (x)
2
0
-2
-4
-6
0
2
4
6
8
10
Time (t)

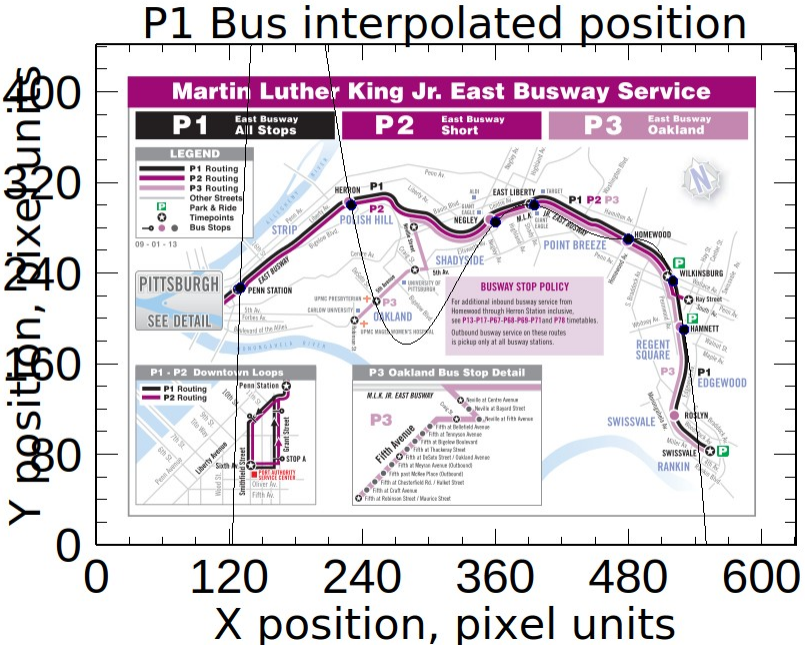

Fifth Body
Position (x)
2
0
-2
-4
-6
0
2
4
6
8
10
Time (t)


Centre of Mass
Position (x)
2
0
-2
-4
-6
0
2
4
6
8
10
Time (t)

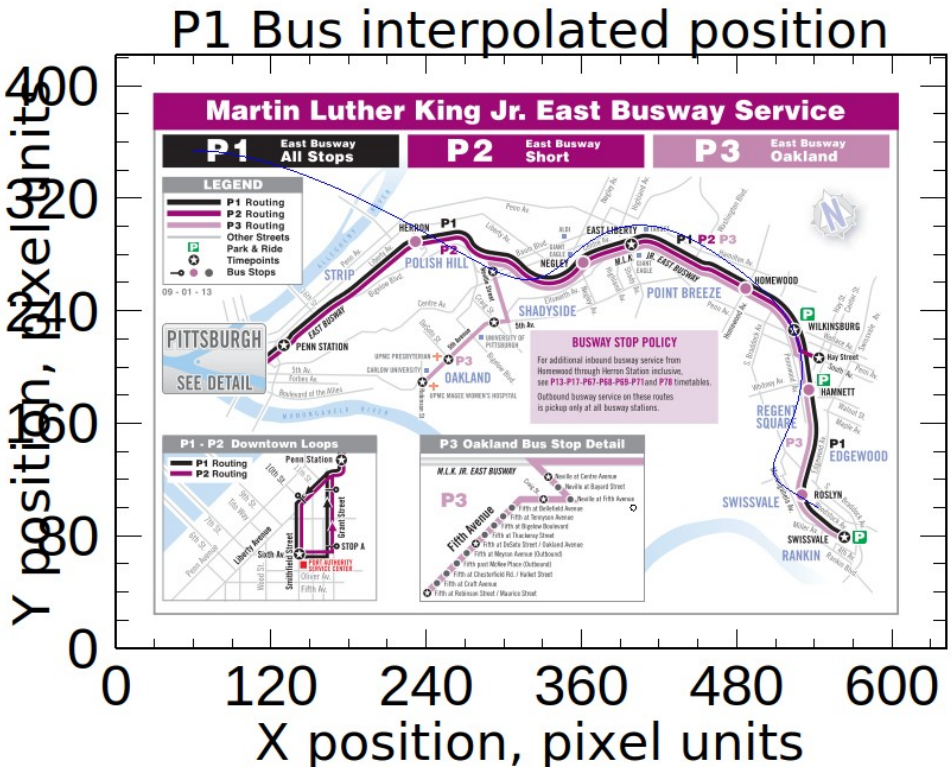
3. a) Code was constructed as instructed.
3. b) The Points were located using PlotProfile as shown below:



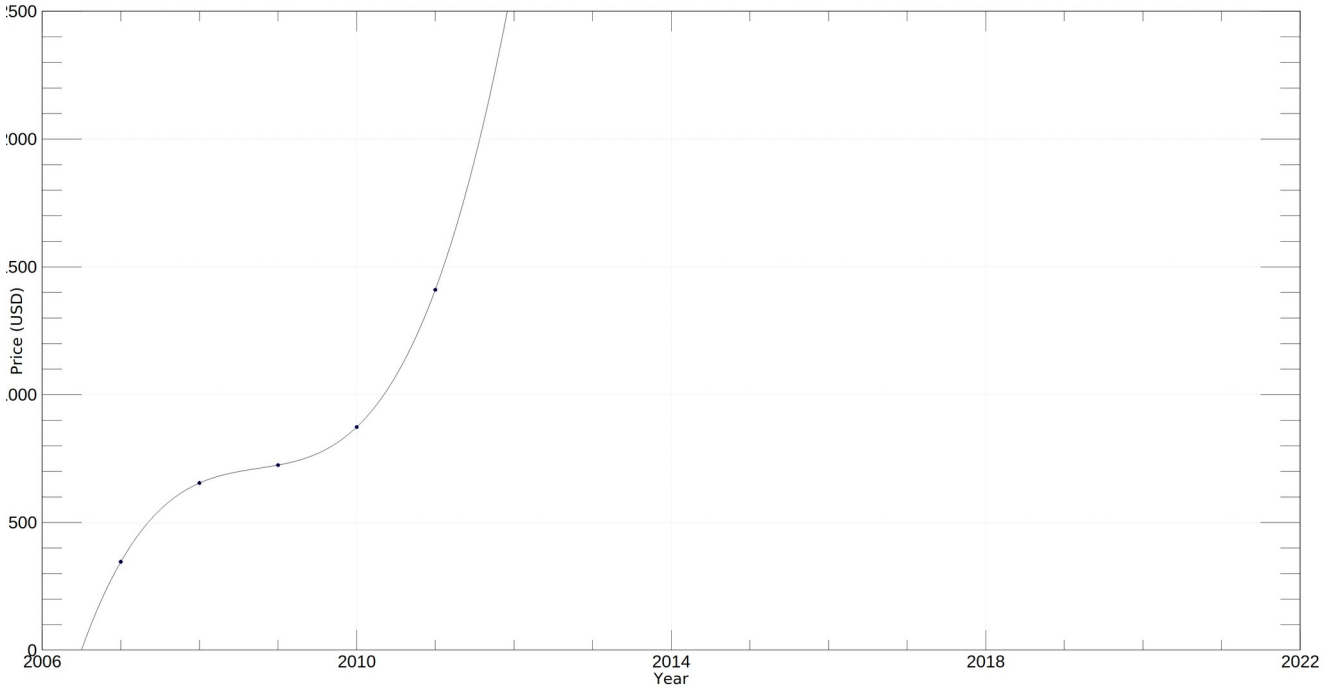
3. c) The interpolation path is determined as:



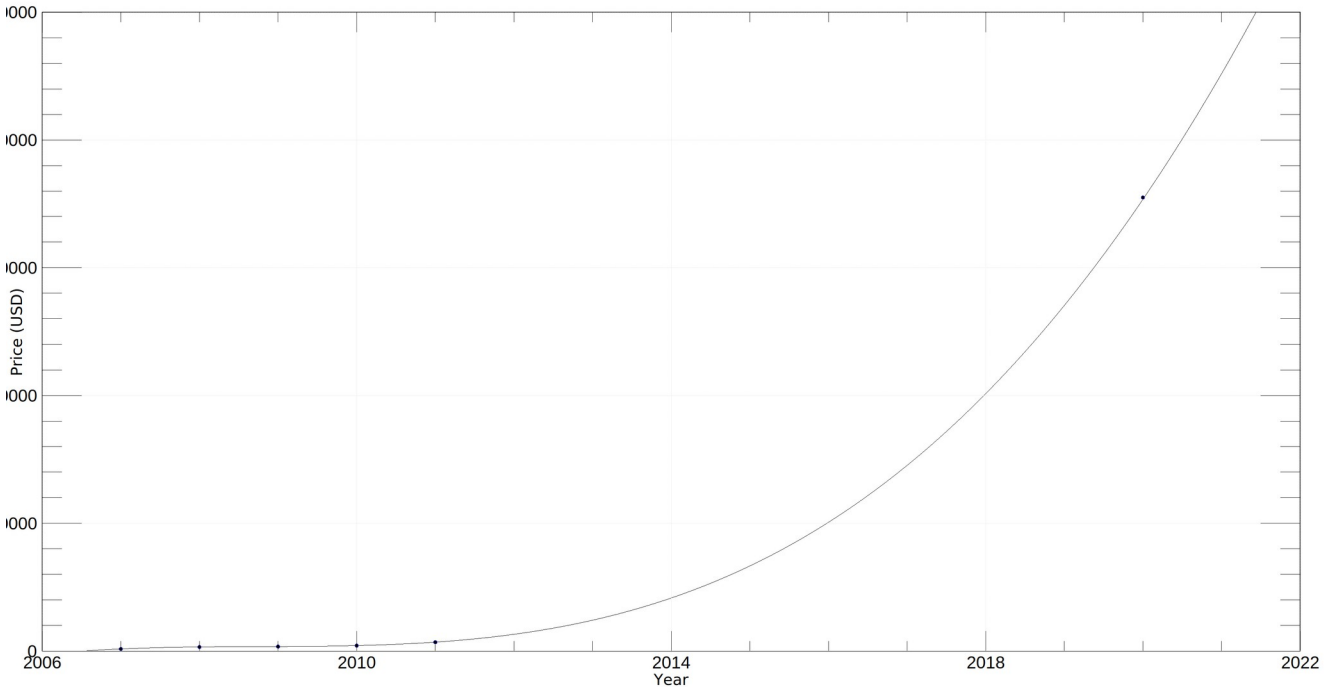
4. Taking the new origin as (400,100) of the original system, adding the points which were not considered last time, and converting to polar coordinates yields the following Interpolating polynomial (shown in blue).



5. The price as function of year is obtained as:



Using an interpolating polynomial fit, it can be seen that the price in 2020 (today) will be about $71000



One year from now, the price is predicted as $90000. So buying a bottle today and selling it will fetch about $19000