

Cmput 340 assignment4

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1 a

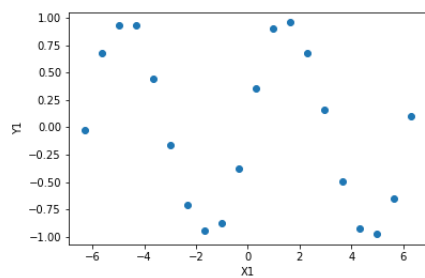


Figure1

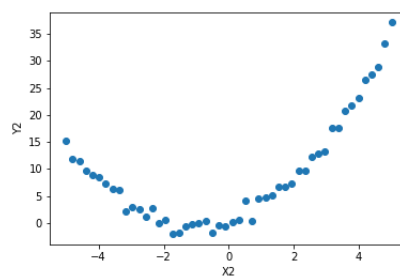


Figure2

- Figure1 is better suited for interpolation because the graph forms a shape suitable to a polynomial or a trig function.
- Figure2 is not suited for interpolation because the data has some noise.

2 b

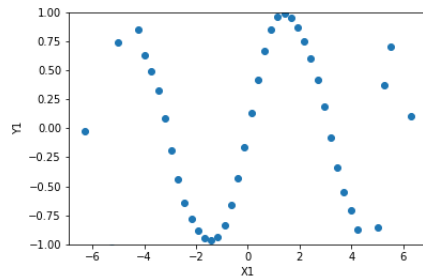


Figure3

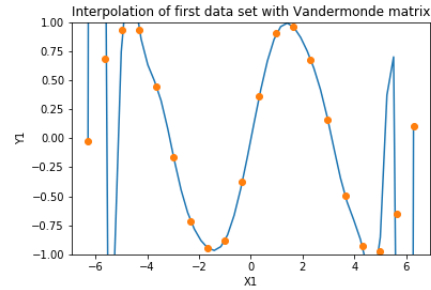


Figure4

Interpolated points on the edge of the plot have unproportionally high values due to interpolating with high degree polynomials.

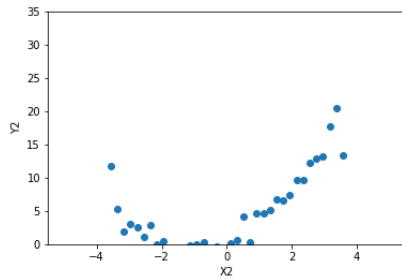


Figure5

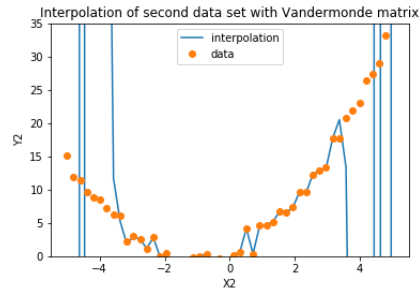
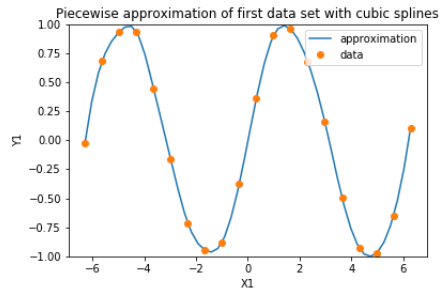


Figure6

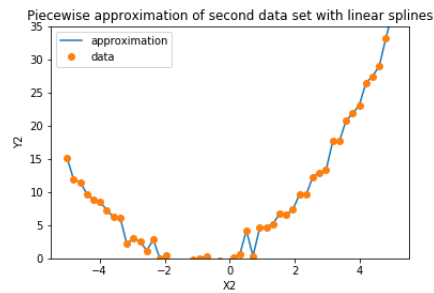
The dataset produced an ill conditioned Vandermonde matrix. Therefore dataset points were not interpolated correctly.

3 c



This was interpolated using cubic splines therefore we avoided the issue of using high deegree polynomials.

4 d



This was interpolated using linear splines therefore we didn't have to rely on an ill conditioned matrix to compute our parameters.