1. Let is a function. Given nodes are {0, 0.7, 1.4, 2.1} and the values of the function of the nodes are {2, 2.80, 3.431, 7.05}.
2. Find the Vadermonde matrix for a linear polynomial passing through (0,2) and (0.7, 2.80).
3. Find the Reverse Vadermonde matrix of the matrix in (a).
4. Find the value of a0 and a1 .
5. In the previous questions, you have computed the coefficients, a0 and a1 of the linear polynomial that passes the points (0,2) and (0.7,2.80) . Using these results, compute the following:
6. Write down the linear polynomial p1(x).
7. Compute p1(0.50).
8. If f(x)=ex , find the error |f(x)−p1(x)| at x=0.50 .
9. If we would like to reduce the error in the previous part, what we need to do.