Assignment-3

1. Write a function which implements the Lagrangian interpolation method for m order polynomials. For obtaining the m order interpolating polynomial, you require the function evaluation of m+1 points.

2. Consider the function $y = \log_2(x)$. Evaluate the function on four points $x_0 = 1$, $x_1 = 4$, $x_2 = 8$ and $x_3 = 256$ and obtain the cubic interpolation g(x) using your code. Find the value of your estimated g(x) at x = 16. Compute the error and compare it from the error obtained by Newton Divided Difference methods