

$$\frac{2(N-1)^2+1}{6}$$

$$j = k = 1$$

$$D_{kj} = \frac{c_k}{c_j} \frac{(-1)^{j+k}}{x_k - x_j}, j \neq k$$

$$D_{kj} = -\frac{1}{2} \frac{x_j}{1-x_j^2}, j = k \neq 1, N$$

$$D_{kj} = \frac{c_k}{c_j} \frac{(-1)^{j+k}}{x_k - x_j}, j \neq k$$

$$-\frac{2(N-1)^2+1}{6}$$

$$j = k = N$$