DEFINITION **INTERPOLATION** **MAJOR**

TEXT BOOK NOTES ALL

Topic	Interpolation
Sub Topic	Textbook Notes – Definition
Summary	Textbook notes of Definition of interpolation.
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What is interpolation?

Many a times, a function $y = f(x)$ is given only at discrete points such as $(x_0, y_0), (x_1, y_1), ..., (x_{n-1}, y_{n-1}), (x_n, y_n)$. How does one find the value of 'y' at any other value of 'x'? Well, a continuous function $f(x)$ may be used to represent the 'n+1' data values with $f(x)$ passing through the 'n+1' points. Then one can find the value of y at any other value of x. This is called interpolation. Of course, if 'x' falls outside the range of 'x' for which the data is given, it is no longer interpolation but instead is called *extrapolation*.

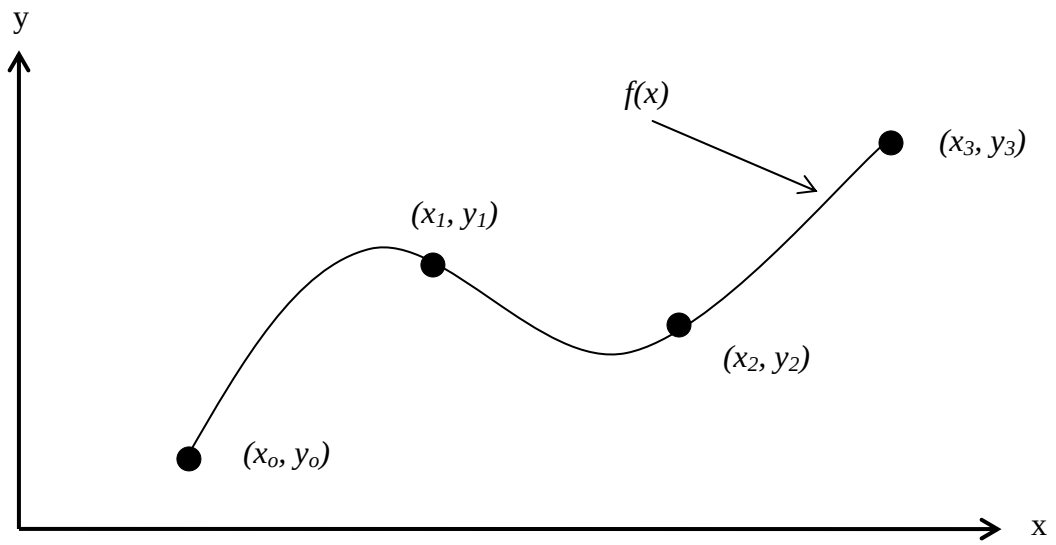

Figure 1 Interpolation of discrete data