**Paper Title:**

Newton’s forward interpolation: representation of numerical data by a polynomial curve

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# What?

The word interpolation refers to interpolating some unknown information from a given set of known information. The technique of interpolation is widely used as a valuable tool in science and engineering. Newton’s forward interpolation formula for representing the numerical data on a pair of variables by a polynomial curve. Application of the formula to numerical data has been shown in the case of representing the data on the total population of India corresponding as a function of time.

# Why need?

1. Interpolating polynomials can be used to represent experimental data when the actual functionality of these data is not known.

2. Reduce the numerical computations associated to the repeated application.

3. In order to find population estimation or any kind of estimation this formula is needed.

4. Compute a large number of interpolated values.

# How to do?

After researching the limitation(s) and get rid of these (repeated numerical computations from the given data and computing a large number of interpolated values) think of an approach which consists of the representation of the giver numerical data by a suitable polynomial and then compute the value of the dependent variable from the polynomial corresponding to any given value of the independent variable.

In order to reduce the numerical computations associated to the repeated application of the existing

interpolation formula in computing a large number of interpolated values, a formula has been derived

from Newton’s forward interpolation formula for representing the numerical data on a pair of variables

by a polynomial curve. Application of the formula to numerical data has been shown in the case of

representing the data on the total population of India corresponding as a function of time. The formula is

suitable in the situation where the values of the argument (i.e. independent variable) are at equal interva

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# Limitation

For apply this formula there must have some condition. We may consider these as limitations.

One of them is:

The given values of the independent variable are at equal interval.

# Future work

Any kind of estimation with a large number of interpolated values we can be find out our predicted value with a new future approach.