***University of Barishal***

*Assignment On*

Newton’s forward interpolation: representation of

numerical data by a polynomial curve

Course Title: Numerical Methods

Course Code: CSE3107

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Class Roll: 17CSE036

Session:2016-17

Semester: 5th

Dept: Computer Science & Engineering

***Newton’s Forward Interpolation: Representation of Numerical Data by a Polynomial Curve***

***Published:*** International Journal of Statistics and Applied Mathematics

**What:**

Newton's forward difference formula is a finite difference identity giving an interpolated value between tabulated points in terms of the first value and the powers of the forward difference.

The formula is particularly useful for interpolating the values of f(x) near the beginning of the set of values given.

**Why:**

Newton’s forward and backward interpolation aka Newton Gregory technique are only available for equal intervals. Let’s say you have some data with equal interval and you want to find any missing value in these. Then the formula is used

**When:**

Newton’s forward interpolation technique is to be used when the x - data point is near the beginning. That is, if you have four data points, say X = 1, 3, 5, 9 and 10. If you are looking for value of y at x = 3 which is near the beginning of the table, then Newton’s forward interpolation works best.

**How:**

Where

**Limitation:**

If the data has large number of swings, then the relations take unnatural curve. If we calculate a missing value, it will not be accurate .In addition, the given formula are not capable on pair of variables by a polynomial if the given values of the independent variables are not equal interval.

**Future Work:**

Thefuture work can be development of some formula for representing a set of numerical data on a pair of variables by a polynomial if the given values of the independent variable are not at equal interval.