Algorithm: Newton's Forward Difference Interpolation

- $Read\ n$

// Read elements
- $For\ i\ =\ 0\ to\ (n-1) in\ steps\ of\ 1\ do$
  - $Read\ x_{arr[i]}, y_{arr[i]}$

  $End\ for$

// Create forward difference table
- $For\ j\ =\ o\ to\ (n-2) in\ steps\ of\ 1\ do$
  - $For\ j\ =\ 0\ to\ (n-j-2) in\ steps\ of\ 1\ do$
    - $If\ (j\ ==\ 0) then$
      - $d[i][j] = y_{arr[i+1]} - y_{arr[i]}$

      $Else$
      - $d[i][j] = d[i+1][j-1] - d[i][j-1]$

      $End\ if$

    $End\ for$

  $End\ for$

//Forward Interpolation Formula
- $Read\ x$
- $Set\ h\ =\ x_{arr[1]} - x_{arr[0]}$
- $Set\ u\ =\ \left(x\ -\frac{x_{arr[0]0}}{h}\right)$
- $Set\ result\ =\ y_{arr[0]}$
- $For\ i\ =\ 0\ to\ (n-2) in\ steps\ of\ 1\ do$
  - $result\ +=\ \left(\frac{num(u,i)}{fac(i+1)}\right) * d[0][i]$

  $End\ for$
- $Print\ result$

END

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