Function Reference

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1 up_init

Argumets void

Function Initialize up function for further usage.

2 f_up

Argumets double X

Function Returns value of $up(X)$

3 interpolate

Argumets double X, double Values[][4], double step, int N

Function Returns interpolated value of function in X. Function defined inside of Values[N][4], where Values[][i], $i = 0$ is for coordinates, $i = 1$ is for values of function, $i = 1+k, k >= 1$ is for function derivatives. Uses simpliest algorithm with single "crossover" of $up(x)$. Doesn't use the information about derivatives.

4 interpolateCIP

Argumets double X, double Values[][4], double step, int N

Function Similar to usual "interpolate", but uses the information about derivatives.

5 interpolateDD

Argumets double X, double Values[][4], double step, int N

Function Similar to "interpolate", but uses information about derivatives at boundary points, and built using double "crossover" of $up(x)$ in interpolation.

6 interpolateDDd

Argumets double X, double Values[][4], double step, int N

Function (*Experimental*) Similar to "interpolateDD", but tries to use information about derivatives not only for boundary parts.