

# SPLINT

SPLINT returns a natural spline interpolated value in two or more dimensions

## Syntax

1. `SPLINT(Pno%, Ndim%, "ColLab$_1", ..., "ColLab$_Ndim%", Xint_1,...,Xint_Ndim%-1, [Xtrap%=0,1])`
2. `SPLINT(0, Npoints%, x_1, y_1, x_2, y_2,..., x_n, y_n, xint, [Xtrap%=0,1])`
3. `SPLINT(@ObjFn(..), Ndim%, @ObjColPar_1,..., @ObjColPar_Ndim%, Xint_1,...,Xint_Ndim%-1, [Xtrap%=0,1])`
4. `SPLINT(TelItab$, Ndim%, "ColLab$_1", ..., "ColLab$_Ndim%", Xint_1,...,Xint_Ndim%-1, [Xtrap%=0,1])`

### Arguments

- **Pno%** is the number that refers to the [TeLiTab](#) sets in the Data slot. Pno% should be an integer value or a parameter which is assigned an integer value and is the number of the [TeLiTab](#) set in the expressions' data slot.
- **Npoints%** is the number of points (x,y) that are given in direct definition.
- **@ObjFn()** refers to the Object from which data will be used.
- **TeLiTab\$** refers to the string parameter that contains the [TeLiTab](#).
- **Ndim%** is the number of dimensions.
- **"ColLab\$\_1"** and **@ObjColPar\_1** refer to the column that will be used as the parameter X in the interpolation.
- **"ColLab\$\_2"** and **@ObjColPar\_2** refer to the column that will be used as the parameter Y in the interpolation. etc.
- **Xint** is the parameter to do interpolation on.
- **Xtrap%** is an optional argument by which can be indicated that in the event of extrapolation, so when the value/vector to be interpolated on is outside the data range, the system issues a warning or not. If Xtrap% is not provided in the function or is given the value zero, such warnings will be given. By providing Xtrap%=1 these warnings will be suppressed.

## Remarks

1. See also Telitab access for a generic description on the use of [TeLiTab](#) data
2. Similar to other Data analysis functions, the SPLINT is a convenient way to evaluate data. Please also look at these functions for syntax examples.
3. The routine contains a cubic spline interpolator. A spline is a curve from which the second derivative is a continuous function. The spline interpolated is a natural spline with zero second derivatives at both ends. Extrapolation outside the x-range is performed parabolic.
4. Please realise the dataset provided to SPLINT should be a function. Every x-value should have one y-value. When you do not have a valid dataset, please look at [GAUSSINT\(\)](#) or [LEASQ\(\)](#)

---

Quick links: [Functions overview](#) | [Attribute overview](#) | [Constants overview](#) | [Dimensions overview](#)