Type Method

evaluatePolynomial(usingCoefficients: withVariables:)

Returns a double-precision evaluated polynomial using specified coefficients and variables.

iOS 13.0+ | iPadOS 13.0+ | Mac Catalyst | macOS 10.15+ | tvOS 13.0+ | visionOS | watchOS 6.0+

```
static func evaluatePolynomial<U>(
    usingCoefficients coefficients: [Double],
    withVariables variables: U
) -> [Double] where U : AccelerateBuffer, U.Element == Double
```

Parameters

`coefficients`
An array that contains the coefficients.

`variables`
An array that contains the independent variables.

Mentioned in

Finding an interpolating polynomial using the Vandermonde method

Discussion

For example, the following code evaluates the polynomial with the coefficients `[10.0, 20.0, 30.0]` and the variables `[7.0, 5.0]`:

```
let coefficients: [Double] = [10, 20, 30]
let variables: [Double] = [7, 5]

let result = vDSP.evaluatePolynomial(usingCoefficients: coefficients,
                                     withVariables: variables)

// Prints "[660.0, 380.0]".
//    result[0] = (10 * 7²) + (20 * 7¹) + (30 * 7⁰) = 660
//    result[1] = (10 * 5²) + (20 * 5¹) + (30 * 5⁰) = 380
print(result)
```

See Also

Related Documentation

`vDSP_vpoly`

Evaluates a single-precision polynomial using specified coefficients, variables, and strides.

Double-precision polynomial evaluation

`static func evaluatePolynomial<U, V>(usingCoefficients: [Double], withVariables: U, result: inout V)`

Evaluates a double-precision polynomial using specified coefficients and variables.