API Collection

Vector distance and Pythagorean computation

Calculate distance and hypotenuse of vectors.

Topics

Vector hypotenuse computation

`static func hypot<U, V>(U, V) -> [Float]`

Returns the single-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of the two input vectors.

`static func hypot<U, V>(U, V) -> [Double]`

Returns the double-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of the two input vectors.

`static func hypot<T, U, V>(T, U, result: inout V)`

Calculates the single-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of the two input vectors.

`static func hypot<T, U, V>(T, U, result: inout V)`

Calculates the double-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of the two input vectors.

`static func hypot<R, S, T, U>(x0: R, x1: S, y0: T, y1: U) -> [Float]`

Returns the single-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

`static func hypot<R, S, T, U>(x0: R, x1: S, y0: T, y1: U) -> [Double]`

Returns the double-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

```
static func hypot<R, S, T, U, V>(x0: R, x1: S, y0: T, y1: U, result: inout V)
```

Calculates the single-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

```
static func hypot<R, S, T, U, V>(x0: R, x1: S, y0: T, y1: U, result: inout V)
```

Calculates the double-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

Vector Pythagorean computation

`vDSP_vpythg`

Calculates the single-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

`vDSP_vpythgD`

Calculates the double-precision hypotenuses of right triangles with legs that are the differences of corresponding elements of two pairs of vectors.

Vector distance computation

`vDSP_vdist`

Calculates the single-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of two pairs of vectors.

`vDSP_vdistD`

Calculates the double-precision hypotenuses of right triangles with legs that are the lengths of corresponding elements of two pairs of vectors.

```
static func distanceSquared<U, V>(U, V) -> Float
```

Returns the single-precision distance squared between two points in n-dimensional space.

```
static func distanceSquared<U, V>(U, V) -> Double
```

Returns the double-precision distance squared between two points in n-dimensional space.

`vDSP_distancesq`

Calculates the single-precision distance squared between two points in n-dimensional space.

`vDSP_distancesqD`

Calculates the double-precision distance squared between two points in n-dimensional space.

See Also

Vector geometry functions

Dot product calculation

Calculate the scalar product of two vectors.