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Function

vDSP_vgen

Generates a single-precision vector that contains monotonically incrementing or decrementing values within a range.

iOS 4.0+ | iPadOS 4.0+ | Mac Catalyst 13.1+ | macOS 10.4+ | tvOS | visionOS 1.0+ | watchOS 2.0+

```
extern void vDSP_vgen(const float * __A, const float * __B, float * __C, vDSP  
_Stride __IC, vDSP_Length __N);
```

Parameters

__A

The start value of the ramp.

__B

The end value of the ramp.

__C

The output vector.

__IC

The distance between the elements in the output vector.

__N

The number of elements that the function processes.

Mentioned in

 Using linear interpolation to construct new data points

Discussion

Use this function to generate and return a vector populated with ramped values.

The following code generates a ramped vector with values in the range 0 . . . 7:

```
let n = 8
let stride = 1

var start: Float = 0
var end: Float = 7

let ramp = [Float](unsafeUninitializedCapacity: n) {
    buffer, initializedCount in

    vDSP_vgen(&start,
              &end,
              buffer.baseAddress!,
              stride,
              vDSP_Length(n))

    initializedCount = n
}

// Prints "[0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0]".
print(ramp)
```

See Also

Vector generation with ramps using a range

vDSP_vgenD

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