

NAG Toolbox for MATLAB

c06gc

1 Purpose

c06gc forms the complex conjugate of a sequence of n data values.

2 Syntax

```
[y, ifail] = c06gc(y, 'n', n)
```

3 Description

This is a utility function for use in conjunction with c06ec or c06fc to calculate inverse discrete Fourier transforms (see the C06 Chapter Introduction).

4 References

None.

5 Parameters

5.1 Compulsory Input Parameters

1: **y(n)** – double array

If **y** is declared with bounds $(0 : n - 1)$ in the (sub)program from which c06gc is called, then **y(j)** must contain the imaginary part of the j th data value, for $0 \leq j \leq n - 1$.

5.2 Optional Input Parameters

1: **n** – int32 scalar

Default: The dimension of the array **y**.

n , the number of data values.

Constraint: $n \geq 1$.

5.3 Input Parameters Omitted from the MATLAB Interface

None.

5.4 Output Parameters

1: **y(n)** – double array

These values are negated.

2: **ifail** – int32 scalar

0 unless the function detects an error (see Section 6).

6 Error Indicators and Warnings

Errors or warnings detected by the function:

ifail = 1

On entry, **n** < 1.

7 Accuracy

Exact.

8 Further Comments

The time taken by c06gc is negligible.

9 Example

```
y = [-0.37168;  
      -0.35669;  
      -0.31175;  
      -0.23702;  
      -0.13274;  
       0.00074;  
       0.16298];  
[yOut, ifail] = c06gc(y)
```

```
yOut =  
    0.3717  
    0.3567  
    0.3118  
    0.2370  
    0.1327  
   -0.0007  
   -0.1630  
ifail =  
      0
```