

## NAG Toolbox for MATLAB

### g05cf

#### 1 Purpose

g05cf saves the values of the seeds used by the generator mechanism (see the G05 Chapter Introduction). g05cf is for use only with the group of functions g05ca–g05hd.

#### 2 Syntax

```
[ia, xa, ifail] = g05cf(ni, nx)
```

#### 3 Description

g05cf saves information about the generator to enable g05cg subsequently to restore the generator to its current state. The values of **ni**, **nx**, **ia** and **xa** must not be altered between a call of g05cf and a call of g05cg.

#### 4 References

None.

#### 5 Parameters

##### 5.1 Compulsory Input Parameters

1: **ni** – **int32** scalar  
*Constraint:*  $ni \geq 9$ .

2: **nx** – **int32** scalar  
*Constraint:*  $nx \geq 4$ .

##### 5.2 Optional Input Parameters

None.

##### 5.3 Input Parameters Omitted from the MATLAB Interface

None.

##### 5.4 Output Parameters

1: **ia**(**ni**) – **int32** array  
Information about the generator.

2: **xa**(**nx**) – **double** array  
Information about the generator.

3: **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, **ni** < 9.

**ifail** = 2

On entry, **nx** < 4

## 7 Accuracy

Not applicable.

## 8 Further Comments

None.

## 9 Example

```
ni = int32(9);  
nx = int32(4);  
g05za('O');  
g05cb(int32(0));  
r=g05ca();  
r=g05ca();  
[ia, xa, ifail] = g05cf(ni, nx)
```

```
ia =  
    0  
   17354  
   14855  
    9908  
    7396  
   49513  
    0  
    0  
    0  
  
xa =  
    1  
    2  
    3  
    6  
ifail =  
    0
```