

NAG Toolbox for MATLAB

e04np

1 Purpose

e04np is used to initialize the function e04nq.

2 Syntax

```
[cw, iw, rw, ifail] = e04np()
```

3 Description

e04np initializes the arrays **cw**, **iw** and **rw** for the function e04nq.

4 References

None.

5 Parameters

5.1 Compulsory Input Parameters

None.

5.2 Optional Input Parameters

None.

5.3 Input Parameters Omitted from the MATLAB Interface

lencw, leniw, lenrw

5.4 Output Parameters

1: **cw(lencw)** – string array

2: **iw(leniw)** – int32 array

3: **rw(lenrw)** – double array

4: **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

One or more of the communication array lengths **lencw**, **leniw** or **lenrw** is less than 600.

7 Accuracy

Not applicable.

8 Further Comments

The time taken by e04np is negligible.

9 Example

e04nq_qphx.m

```
function [hx, user] = qphx(ncolh, x, nstate, user)
    hx = zeros(ncolh, 1);

    hx(1) = 2*x(1);
    hx(2) = 2*x(2);
    hx(3) = 2*(x(3)+x(4));
    hx(4) = hx(3);
    hx(5) = 2*x(5);
    hx(6) = 2*(x(6)+x(7));
    hx(7) = hx(6);
```

```
start = 'C';
m = int32(8);
n = int32(7);
lenc = int32(0);
ncolh = int32(7);
iobj = int32(8);
objadd = 0;
prob = '          ';
acol = [0.02;
        0.02;
        0.03;
        1;
        0.7;
        0.02;
        0.15;
        -200;
        0.06;
        0.75;
        0.03;
        0.04;
        0.05;
        0.04;
        1;
        -2000;
        0.02;
        1;
        0.01;
        0.08;
        0.08;
        0.8;
        -2000;
        1;
        0.12;
        0.02;
        0.02;
        0.75;
        0.04;
        -2000;
        0.01;
        0.8;
        0.02;
        1;
        0.02;
        0.06;
        0.02;
        -2000;];
```

```

1;
0.01;
0.01;
0.97;
0.01;
400;
0.97;
0.03;
1;
400];
inda = [int32(7);
int32(5);
int32(3);
int32(1);
int32(6);
int32(4);
int32(2);
int32(8);
int32(7);
int32(6);
int32(5);
int32(4);
int32(3);
int32(2);
int32(1);
int32(8);
int32(2);
int32(1);
int32(4);
int32(3);
int32(7);
int32(6);
int32(8);
int32(1);
int32(7);
int32(3);
int32(4);
int32(6);
int32(2);
int32(8);
int32(5);
int32(6);
int32(7);
int32(1);
int32(2);
int32(3);
int32(4);
int32(8);
int32(1);
int32(2);
int32(3);
int32(6);
int32(7);
int32(8);
int32(7);
int32(2);
int32(1);
int32(8)];
loca = [int32(1);
int32(9);
int32(17);
int32(24);
int32(31);
int32(39);
int32(45);
int32(49)];
bl = [0;
0;
400;
100;

```

[illegible]

```

    0;
    0;
    0;
    0;
    0];
ns = int32(0);
[cw, iw, rw, ifail] = e04np();
[hsOut, xOut, pi, rc, nsOut, ninf, sinf, obj, cuser, cwOut, iwOut, rwOut,
ifail] = ...
    e04nq(start, 'e04nq_qphx', m, n, lenc, ncolh, iobj, objadd, prob,
acol, ...
    inda, loca, bl, bu, c, names, helast, hs, x, ns, cw, iw, rw)

hsOut =
    0
    3
    2
    2
    3
    3
    3
    0
    3
    1
    3
    3
    0
    0
    3

xOut =
    1.0e+06 *
    0
    0.0003
    0.0006
    0.0002
    0.0004
    0.0003
    0.0002
    0.0020
    0.0000
    0.0001
    0.0000
    0.0000
    0.0015
    0.0002
    -2.9887

pi =
    1.0e+04 *
    -1.2901
    0.0000
    -0.2325
    0
    0
    1.4455
    1.4581
    -0.0001

rc =
    1.0e+04 *
    0.2361
    -0.0000
    -0.0000
    0.0000
    0.0000
    0.0000
    0.0000
    0.0000
    -1.2901
    0.0000
    -0.2325
    0
    0

```

```
        1.4455
        1.4581
       -0.0001
nsOut =
           2
ninf =
           0
sinf =
           0
obj =
    -1.8478e+06
cuser =
           0
cwOut =
    array elided
iwOut =
    array elided
rwOut =
    array elided
ifail =
           0
```
