1 SUMMARY
Finds $K$ the H.C.F. of two given integers $I$ and $J$. It also finds integers $M$ and $N$ such that

$$M \times I - N \times J = K \quad K > 0$$

and $M \times I, N \times J \geq 0$ and such that $\max\{|N|, |M|\}$ is minimized.


2 HOW TO USE THE PACKAGE

2.1 The argument list

CALL ID02A(I, J, M, N, K)

$I, J$ are INTEGER variables which must be set by the user to the two integers $I$ and $J$ for which the Highest Common Factor is required.

$M, N$ are INTEGER variables which are returned set by the subroutine to two integers $M$ and $N$ such that

$$M \times I - N \times J = K \quad K > 0$$

and $M \times I \geq 0$ and $N \times J \geq 0$ are chosen so that $\max\{|N|, |M|\}$ is minimized subject to the constraint that $M \times I$ and $N \times J$ are both non-negative.

$K$ is an INTEGER variable set by the subroutine to $K$ the H.C.F of the two integers $I$ and $J$. The value of $K$ will always be non-negative.

3 GENERAL INFORMATION

Use of common: None.
Workspace: None.
Other routines called directly: None.
Input/output: None.