# **RBINOM**

## **CERN Program Library**

**B100** 

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### **Binomial Coefficient**

Function subprograms RBINOM and DBINOM calculate the binomial coefficient

for real x and integer k. Function subprogram KBINOM calculates the binomial coefficient only for integer x=n.

On CDC and Cray computers, the double-precision version DBINOM is not available.

#### **Structure:**

**FUNCTION** subprograms

User Entry Names: RBINOM, DBINOM, KBINOM Obsolete User Entry Names: BINOM ≡ RBINOM

Files Referenced: Unit 6

## **Usage:**

In any arithmetic expression,

$$RBINOM(X,K)$$
,  $DBINOM(X,K)$  or  $KBINOM(N,K)$ 

has the value of the binomial coefficient. RBINOM is of type REAL, DBINOM is of type DOUBLE PRECISION and X has the same type as the function name. KBINOM, N and K are of type INTEGER.

#### **Restrictions:**

Function subprogram KBINOM can compute only binomial coefficients which lie in the integer range of the machine.

#### Accuracy:

Full machine accuracy.

### **Error handling:**

If the result of KBINOM would lie outside the integer range of the machine, KBINOM is set equal to zero and an error message is printed.

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