

## **NAG Library Chapter Introduction**

### **X03 – Inner Products**

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## 1 Scope of the Chapter

This chapter is concerned with the calculation of innerproducts required by other routines within the Library.

## 2 Background to the Problems

Some Library routines require to calculate the innerproduct

$$c + \sum_i x_i y_i,$$

preferably in additional precision, but, if this is unavailable or prohibitively expensive, then in basic precision. These routines call Chapter X03 so that machine dependencies of this type can be isolated to this chapter.

## 3 Recommendations on Choice and Use of Available Routines

Although these routines are primarily intended for use by other Library routines they may be accessed directly by you:

X03AAF calculates the innerproduct for real values  $c$ ,  $x_i$  and  $y_i$ ,

X03ABF calculates the innerproduct for complex values  $c$ ,  $x_i$  and  $y_i$ ,

## 4 Routines Withdrawn or Scheduled for Withdrawal

None.

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