NAG Toolbox for MATLAB

Chapter Introduction

A02 – Complex Arithmetic

Contents

1 Scope of the Chapter

This chapter provides facilities for arithmetic operations involving complex numbers.

2 Background to the Problems

Of the several representations used for complex numbers, perhaps the most common is $a + ib$, where a and b are real numbers, and i represents the **imaginary** number $\sqrt{-1}$. The number a is the **real part**, and ib the **imaginary part**.

For the basic arithmetic operations of addition, subtraction and multiplication, the inclusion of functions was not considered worthwhile. Their coding would be short and no special techniques need be used.

In complex number operations of a more complicated nature, special precautions may have to be taken to avoid unnecessary overflow and underflow at intermediate stages of the computation. This has led to the inclusion of functions in this chapter.

3 Index