#VOP example from Problem 10-2 in Battin (page 476)

Original problem:

Numerical analysis:

Symbolic analysis:

Note: for

Wronskian

Assume then , , and ; since arbitrary set it to 1.

VOP (inhomogenous)

Now suppose that we assume but with . The first derivative is is

Requiring that the Wronskian continues to obey we get

Matching terms with the earlier form means that

or