

# 1 Example test.wls

## File content

```
{
  (* Upper List *) {
    (* Upper Front list *) {{1, \[Alpha]^(-1)}, {1, 1}},
    (* Upper Rear List *) {{Ceil\[Beta]], \[Beta]}, {1, 1}}
  },
  (* Lower List *) {
    (* Lower Front List *) {{1/2, \[Alpha]/2}, {1, 1}, {3, 3}, {2, 2}},
    (* Lower Rear List *) {{1, \[Alpha]/2}}
  }
}
```

## Fox H-function

$$H_{4,5}^{4,2} \left( . \left| \begin{array}{c} (1, \frac{1}{\alpha}), (1, 1), (\text{Ceil}(\beta), \beta), (1, 1) \\ (\frac{1}{2}, \frac{\alpha}{2}), (1, 1), (3, 3), (2, 2), (1, \frac{\alpha}{2}) \end{array} \right. \right)$$

$$H_{4,5}^{4,2} \left( . \left| \frac{(1, \frac{1}{\alpha}), (1, 1)}{(\frac{1}{2}, \frac{\alpha}{2}), (1, 1), (3, 3), (2, 2)} \right| \frac{(\text{Ceil}(\beta), \beta), (1, 1)}{(1, \frac{\alpha}{2})} \right)$$

## Summary

$$\begin{aligned}
a^* &= \frac{1}{\alpha} - \beta + 6 \\
\Delta &= \alpha - \frac{1}{\alpha} - \beta + 4 \\
\delta &= \frac{2^{-\alpha} \left( 2^{\frac{\alpha}{2}+5} \alpha^{\alpha/2} + \alpha^\alpha \right)}{\left( \left( \frac{1}{\alpha} \right)^{\frac{1}{\alpha}} + 1 \right) (\beta^\beta + 1)} \\
\mu &= 4 - \text{Ceil}(\beta) \\
a_1^* &= \frac{\alpha}{2} - \beta + 5 \\
a_2^* &= -\frac{\alpha}{2} + \frac{1}{\alpha} + 1 \\
\xi &= \frac{13}{2} - \text{Ceil}(\beta) \\
c^* &= \frac{3}{2}
\end{aligned}$$

## Poles 1. First ten poles from upper front list

$$a_{i,k} = \begin{pmatrix} 0 & \alpha & 2\alpha & 3\alpha & 4\alpha & 5\alpha & 6\alpha & 7\alpha & 8\alpha & 9\alpha & 10\alpha \\ 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \end{pmatrix}$$

## 2. First ten poles from lower front list

$$b_{j,\ell} = \begin{pmatrix} -\frac{1}{\alpha} & -\frac{3}{\alpha} & -\frac{5}{\alpha} & -\frac{7}{\alpha} & -\frac{9}{\alpha} & -\frac{11}{\alpha} & -\frac{13}{\alpha} & -\frac{15}{\alpha} & -\frac{17}{\alpha} & -\frac{19}{\alpha} & -\frac{21}{\alpha} \\ -1 & -2 & -3 & -4 & -5 & -6 & -7 & -8 & -9 & -10 & -11 \\ -1 & -\frac{4}{3} & -\frac{5}{3} & -2 & -\frac{7}{3} & -\frac{8}{3} & -3 & -\frac{10}{3} & -\frac{11}{3} & -4 & -\frac{13}{3} \\ -1 & -\frac{3}{2} & -2 & -\frac{5}{2} & -3 & -\frac{7}{2} & -4 & -\frac{9}{2} & -5 & -\frac{11}{2} & -6 \end{pmatrix}$$