1 Methods

2 Results

Figure 1 shows the two solutions for Case 1: 5 control volumes and $\overline{V} = 0.1 \, \mathrm{m\,s^{-1}}$. Figure 2 shows the two solutions for Case 2: 5 control volumes and $\overline{V} = 2.5 \, \mathrm{m\,s^{-1}}$. Figure 3 shows the two solutions for Case 3: 20 control volumes and $\overline{V} = 2.5 \, \mathrm{m\,s^{-1}}$.
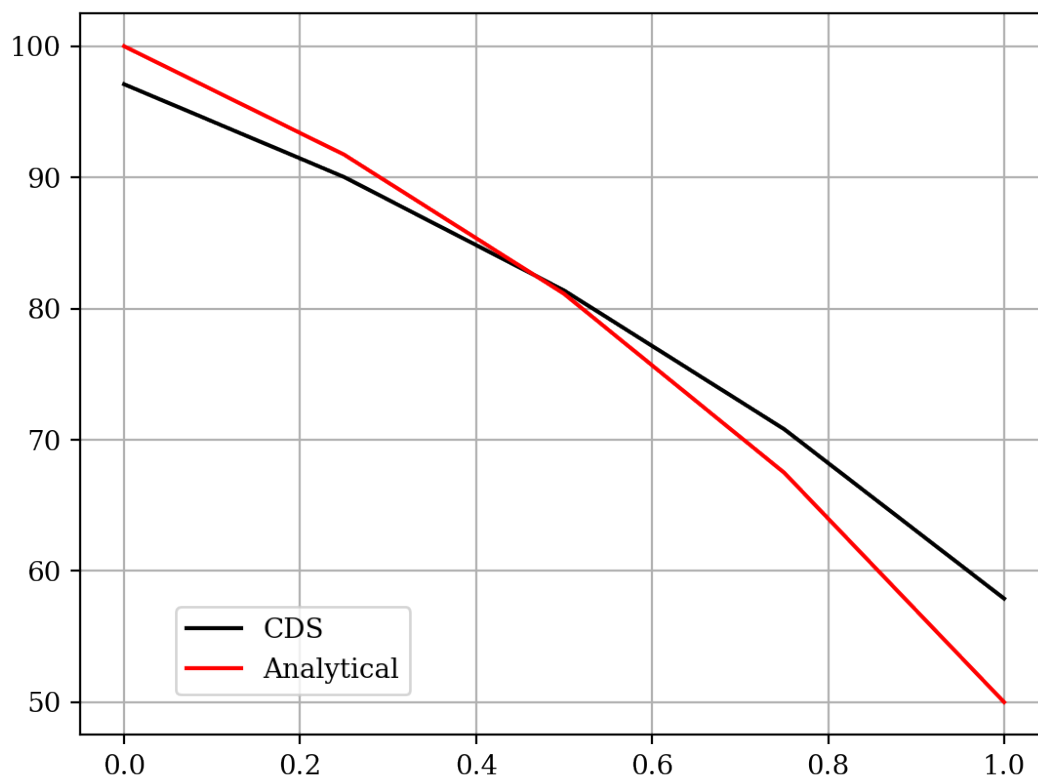

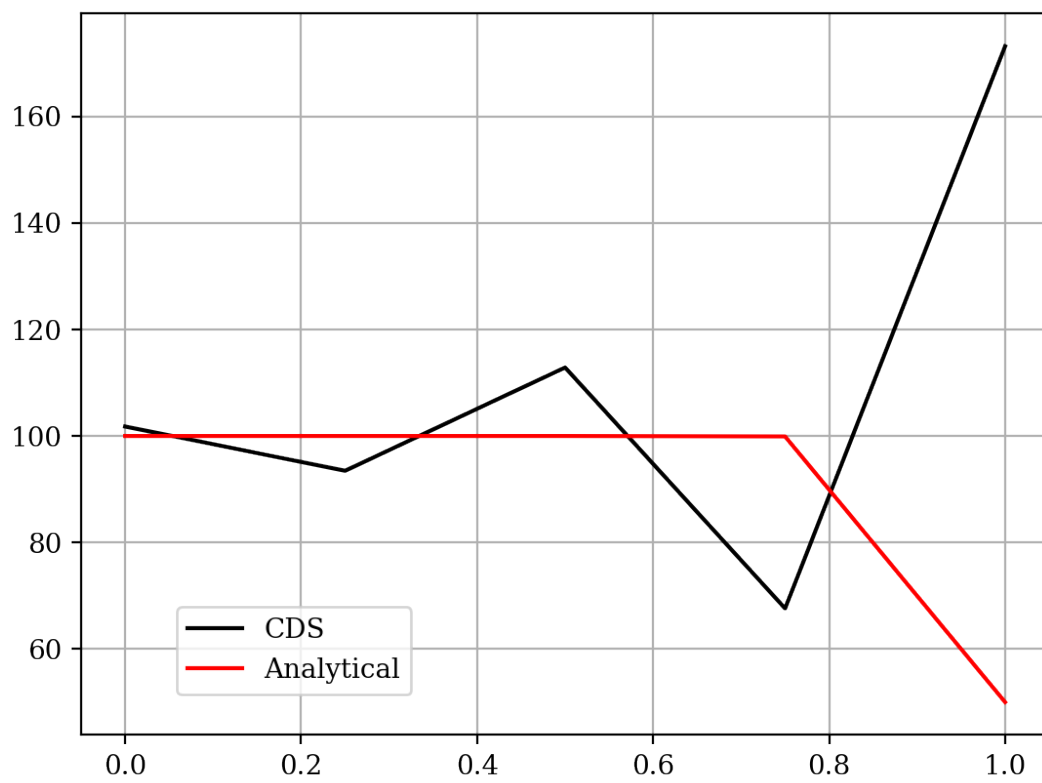Figure 1: Central Difference Scheme and Analytical Solutions for Case 1.

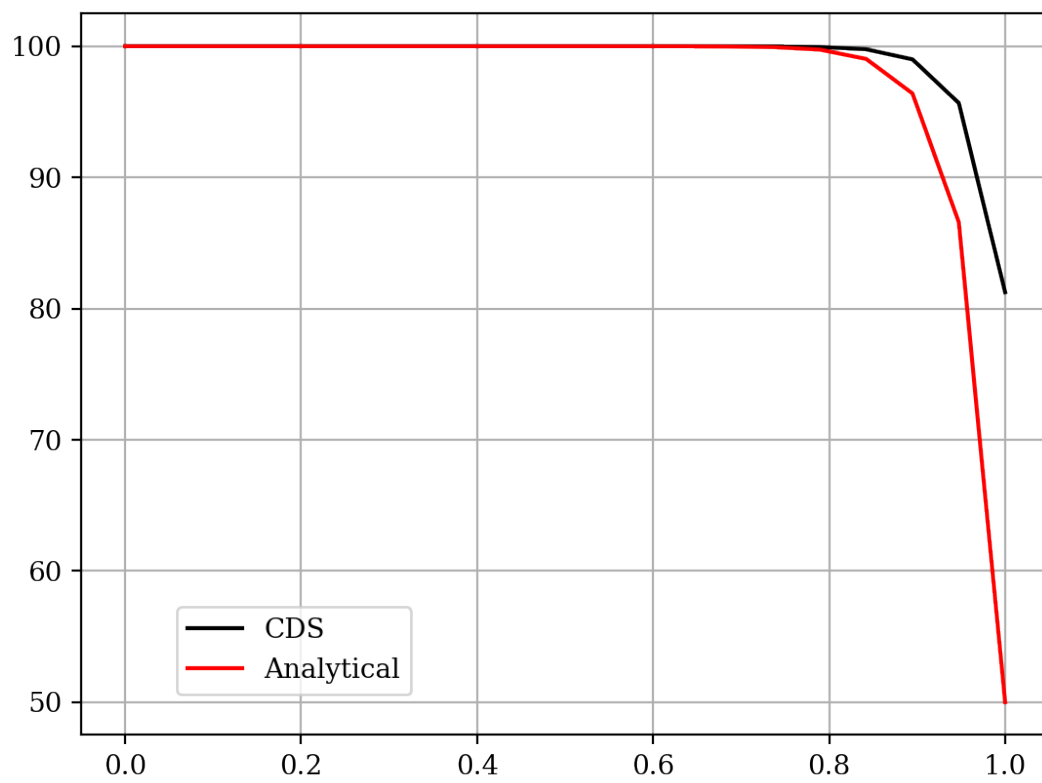Figure 2: Central Difference Scheme and Analytical Solutions for Case 2.

Figure 3: Central Difference Scheme and Analytical Solutions for Case 3.

Table 1 lists the error values calculated for each case.

Table 1: Error values for each case.

Case	Error
1	3.213926974817029
2	35.33997019002361
3	2.1977755170786173

3　Discussion