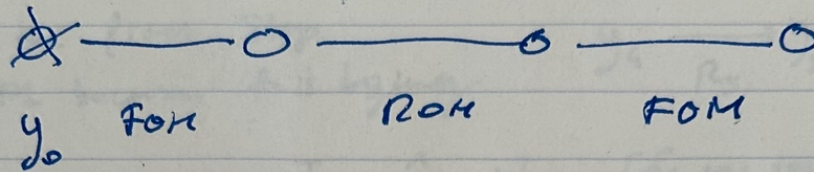


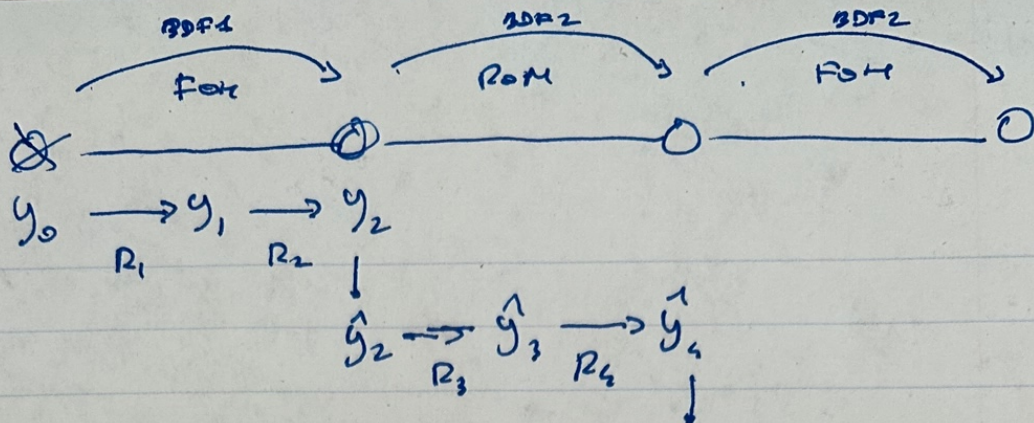
M HED FOM-ROH (LSPA) with BDF2



$$y_0 = \begin{bmatrix} 10 \\ \vdots \\ 10 \end{bmatrix}$$

MAIN2\_BDF2.CC





Note the pivot step  
is BDF1 because it is beginning

$$y_4 \xrightarrow{R_5} y_5 \xrightarrow{R_6} y_6$$

$$\begin{aligned} y_0 &= [10 \dots \dots 10]^T & \hat{y}_2 &= \phi^T y_2 = [96 \ 192 \ 288]^T & y_4 &= \phi \hat{y}_4 \\ & & & & & \downarrow [1356 \dots]^T \\ y_1 &= [11 \dots \dots 11]^T & \hat{y}_3 &= \begin{bmatrix} 97 \\ 197 \\ 287 \end{bmatrix} & & \\ y_2 &= [12 \dots \dots 12]^T & \hat{y}_4 &= \hat{y}_3 + 1 & y_5 &= y_4 + 1 \\ & & & & y_6 &= y_5 + 1 \end{aligned}$$

$$R_1 = y_0 - y_0 - hf = [-2 \dots \dots -2]^T$$

$$R_2 = y_1 - y_0 - hf = [-1 \dots \dots -1]^T$$

$$\begin{aligned} R_3 &= \phi \phi^T y_2 - \frac{4}{3} \phi \phi^T y_2 + \frac{1}{3} \phi \phi^T y_0 - \frac{2}{3} hf \\ &= [-76 \dots \dots -76] \end{aligned}$$

$$\begin{aligned} R_4 &= \phi \hat{y}_3 - \frac{4}{3} \phi \phi^T y_2 + \frac{1}{3} \phi \phi^T y_0 - \frac{2}{3} hf \\ &= [-70 \dots \dots -70] \end{aligned}$$

$$\begin{aligned} R_5 &= y_4 - \frac{4}{3} y_4 + \frac{1}{3} \phi \hat{y}_2 - \frac{2}{3} hf \\ &= [-16/3 \dots \dots -16/3] \end{aligned}$$

$$\begin{aligned} R_6 &= y_5 - \frac{4}{3} y_5 + \frac{1}{3} \phi \hat{y}_2 - \frac{2}{3} hf \\ &= [-13/3 \dots \dots -13/3] \end{aligned}$$