

Exercise 10-1

Data and status reporting

Reports are created for each process when START button is pressed and are closed when STOP or EXIT button is used. Reports are saved automatically with the timestamp name in the **Report** folder.

Word report is intended to log application status from the Status indicator, while Excel report stores real-time state of the model (barrel position, fluid level) in separate worksheet for each barrel.

Word report.vi and **Excel report.vi** are similar FGVs located in **Report library** of the project. They both utilize the same **Report state** control enabling actions:

- **Create report** – creates a new MS Office report and initializes it
- **Save data** – stores data (text or model properties) in the report file
- **Save report** – saves the report file in **Reports** folder
- **Available printers** – lists the printers available on the computer
- **Print report** – prints the report on the printer chosen in Report tab of UI
- **Close report** – closes the reference to the report

Open **Word report.vi** and briefly analyse the code for each case (Fig. 1). Repeat for **Excel report.vi**.

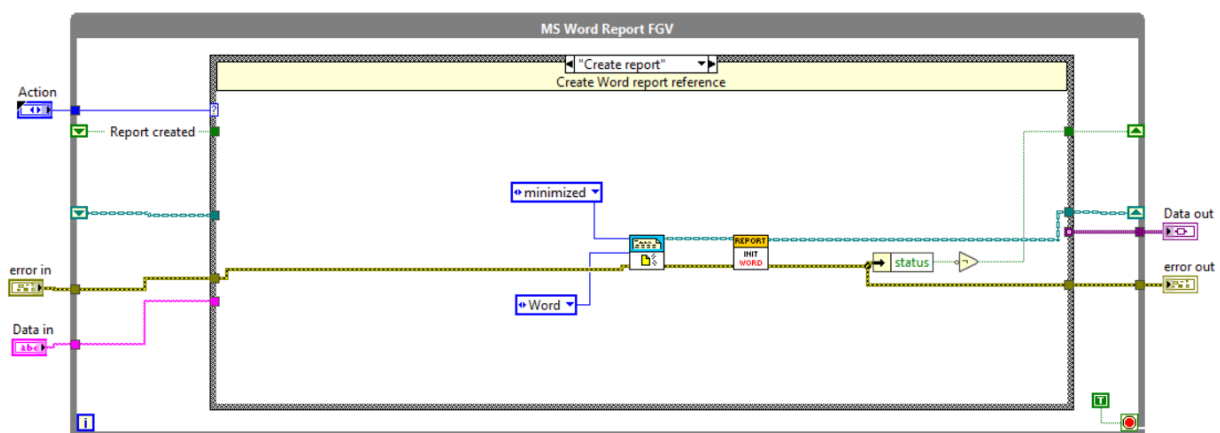


Fig. 1. Word report FGV

Task: Complete gaps in application code to apply reporting according to Tab. 1

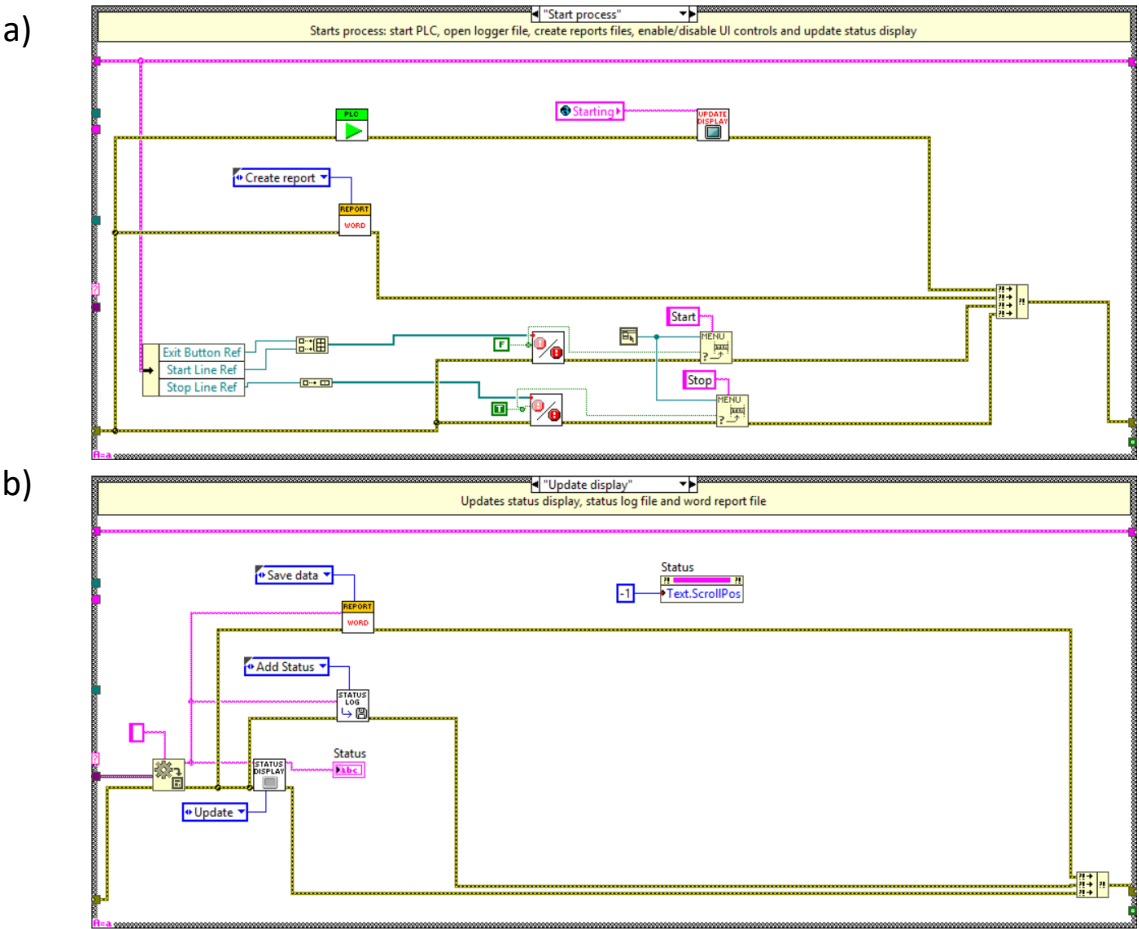
Table 1. Report generation scheme in PLC application

Application state/action	WORD report action	EXCEL report action
Start process	Create report	Create report
Update Display	Save data	
Stop Log		Save data
Stop process	1. Save report 2. Close report	1. Save report 2. Close report
Check printers	Available printers	
Print	Print report	

Use Bookmark manager to navigate through tasks in the application

10-1.1 Status reporting in MS Word (Fig. 2):

- a) Insert **Word report.vi** from Report library into **Start process** case of **UI MHL** and apply **Create report** action
- b) Add another instance of this FGV into **Update display** of **UI MHL** to add current status to the report (**Save data** action)
- c) **Save** the report to file and next **Close** the report in **Stop** case of **PLC**



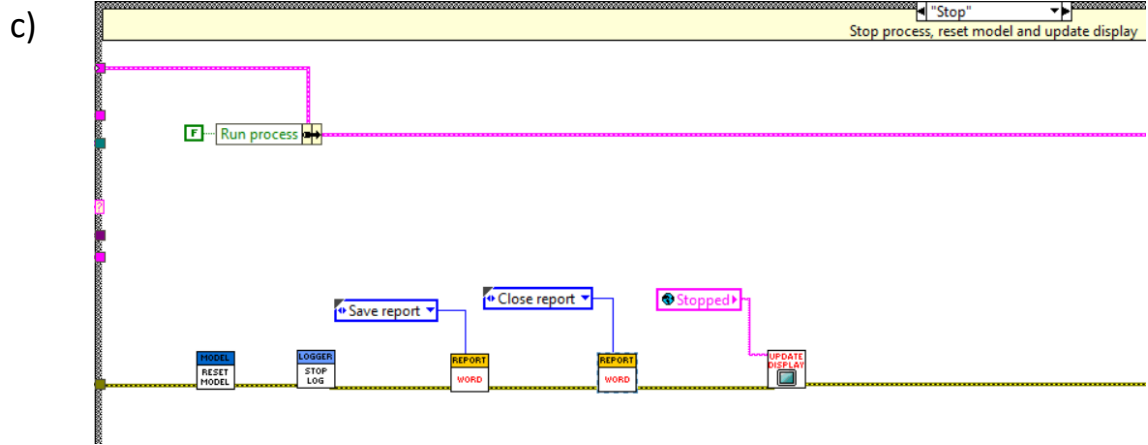


Fig. 2. Block diagrams with Word report: a) creation, b) updating, c) saving and closing

10-1.2 Data reporting in MS Excel (Fig. 3):

- Insert **Excel report.vi** from Report library into **Open Log** case of **Logger** and apply **Create report** action
- Add another instance of this FGV to **Stop Log** case of **Logger** to save model data (2D numeric array) which is read from TDMS data file (convert data to variant), but only if the Logger is in **Working** state
- Subsequently **Save** the report to file and **Close** the report afterwards

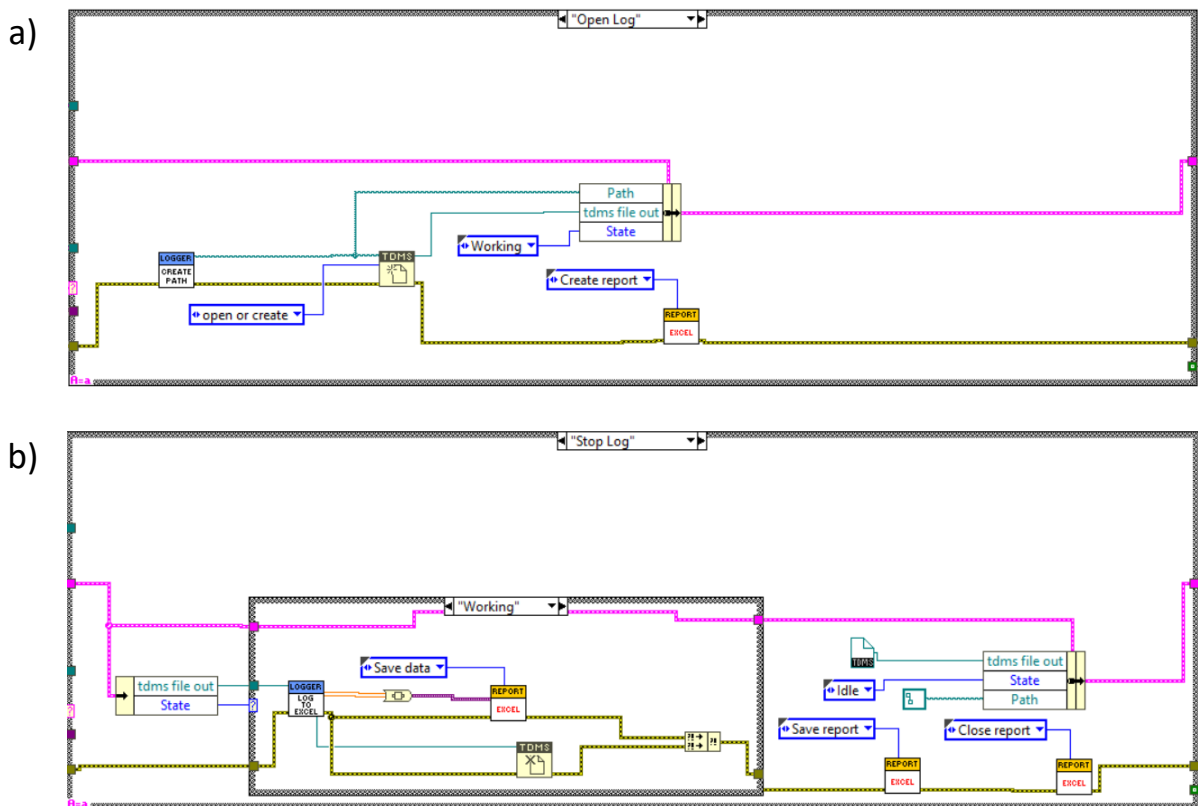


Fig. 3. Block diagrams with Excel report: a) creation, b) updating, saving and closing