

	type: colab or handwritten	similar exercise		
homework	handwritten or typed			
ex.4.1.1.a	handwritten or typed	ex.4.1.1.b	ex.4.1.1.b PDF solution	<a href="https://langou.github.io/4650/4.1/exercise_ex_4_1_01_b_sauer3/exercise_ex_4_1_01_b_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.1/exercise_ex_4_1_01_b_sauer3/exercise_ex_4_1_01_b_sauer3_sol_langou.pdf</a>
ex.4.1.1.c			ex.4.1.1.b colab helper	<a href="https://colab.research.google.com/drive/1QmINouhGT-_UtSpXU9V5GUpDS99kDly">https://colab.research.google.com/drive/1QmINouhGT-_UtSpXU9V5GUpDS99kDly</a>
ex.4.1.2.a	handwritten or typed	ex.4.1.2.b	ex.4.1.1.b PDF solution	<a href="https://langou.github.io/4650/4.1/exercise_ex_4_1_02_b_sauer3/exercise_ex_4_1_02_b_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.1/exercise_ex_4_1_02_b_sauer3/exercise_ex_4_1_02_b_sauer3_sol_langou.pdf</a>
			ex.4.1.1.b colab helper	<a href="https://colab.research.google.com/drive/19z_bgBQjCaLlOA_0w3p6_K4Dg8edxQRm">https://colab.research.google.com/drive/19z_bgBQjCaLlOA_0w3p6_K4Dg8edxQRm</a>
ex.4.1.8.b	handwritten or typed	ex.4.1.8.a	ex.4.1.8.a PDF solution	<a href="https://langou.github.io/4650/4.1/exercise_ex_4_1_08_a_sauer3/exercise_ex_4_1_08_a_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.1/exercise_ex_4_1_08_a_sauer3/exercise_ex_4_1_08_a_sauer3_sol_langou.pdf</a>
			ex.4.1.8.a colab helper	<a href="https://colab.research.google.com/drive/1-t_9FiXu55PlzpZeB3vVY6ixLS_6hf4d">https://colab.research.google.com/drive/1-t_9FiXu55PlzpZeB3vVY6ixLS_6hf4d</a>
ex.4.1.9.b	handwritten or typed	ex.4.1.9.a	ex.4.1.9.a PDF solution	<a href="https://langou.github.io/4650/4.1/exercise_ex_4_1_09_a_sauer3/exercise_ex_4_1_09_a_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.1/exercise_ex_4_1_09_a_sauer3/exercise_ex_4_1_09_a_sauer3_sol_langou.pdf</a>
			ex.4.1.9.a colab helper	<a href="https://colab.research.google.com/drive/1_rkgIFPEyktaBG3zKfu6q0lIKwVdZTo8">https://colab.research.google.com/drive/1_rkgIFPEyktaBG3zKfu6q0lIKwVdZTo8</a>
cp.4.1.5	colab		getting started	<a href="https://colab.research.google.com/drive/13gw6Vwiz6cQjx3lEIAJtnxC6vhabWkv">https://colab.research.google.com/drive/13gw6Vwiz6cQjx3lEIAJtnxC6vhabWkv</a>
cp.4.2.6	handwritten or typed			<a href="https://colab.research.google.com/drive/1KQChAXtFm-tQmeb9GvaHJPkkNDliarVY">https://colab.research.google.com/drive/1KQChAXtFm-tQmeb9GvaHJPkkNDliarVY</a>
cp.4.2.7	handwritten or typed			<a href="https://colab.research.google.com/drive/1DJFK_hsx23JiX1GF4BFuaNKctLG7FoeQ">https://colab.research.google.com/drive/1DJFK_hsx23JiX1GF4BFuaNKctLG7FoeQ</a>
cp.4.2.8	handwritten or typed			<a href="https://colab.research.google.com/drive/15l78g98FkzI65f_C2uqjC8WCBzK31qT-">https://colab.research.google.com/drive/15l78g98FkzI65f_C2uqjC8WCBzK31qT-</a>
cp.4.2.9	colab + ( handwritten or typed )		getting started	<a href="https://colab.research.google.com/drive/1juTBIIQWf06NjXEzScfy2Cnc4MPUJOS-">https://colab.research.google.com/drive/1juTBIIQWf06NjXEzScfy2Cnc4MPUJOS-</a>
ex.4.3.2.b	handwritten or typed		ex.4.3.2.a PDF solution	<a href="https://langou.github.io/4650/4.3/exercise_ex_4_3_02_sauer3/exercise_ex_4_3_02_a_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.3/exercise_ex_4_3_02_sauer3/exercise_ex_4_3_02_a_sauer3_sol_langou.pdf</a>
ex.4.3.7.b	handwritten or typed		ex.4.3.7.a PDF solution	<a href="https://langou.github.io/4650/4.3/exercise_ex_4_3_07_sauer3/exercise_ex_4_3_07_a_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.3/exercise_ex_4_3_07_sauer3/exercise_ex_4_3_07_a_sauer3_sol_langou.pdf</a>
ex.4.3.8.b	handwritten or typed		ex.4.3.8.a PDF solution	<a href="https://langou.github.io/4650/4.3/exercise_ex_4_3_08_sauer3/exercise_ex_4_3_08_a_sauer3_sol_langou.pdf">https://langou.github.io/4650/4.3/exercise_ex_4_3_08_sauer3/exercise_ex_4_3_08_a_sauer3_sol_langou.pdf</a>
cp.4.3.6	colab		cp.4.3.5	<a href="https://colab.research.google.com/drive/1gZqZ_YyeL9gsaShbrqfhuQgDdjBg-Bfj">https://colab.research.google.com/drive/1gZqZ_YyeL9gsaShbrqfhuQgDdjBg-Bfj</a>
cp.4.5.1.b	colab	cp.4.5.1.a	cp.4.5.1.a colab	<a href="https://colab.research.google.com/drive/1yOIOFet1piwBMRq1W6tNk-y6UGeTNOL1">https://colab.research.google.com/drive/1yOIOFet1piwBMRq1W6tNk-y6UGeTNOL1</a>
cp.4.5.2.b	colab	cp.4.5.2.a	cp.4.5.2.a colab	<a href="https://colab.research.google.com/drive/1Yv1h2tUSi3rnBQI9hMQAcE03-w3MXndV">https://colab.research.google.com/drive/1Yv1h2tUSi3rnBQI9hMQAcE03-w3MXndV</a>
cp.4.5.3.b	colab	cp.4.5.3.a	cp.4.5.3.a colab	<a href="https://colab.research.google.com/drive/166Q9rVkcLleNyagrZSYjMF_X6Vy1ZGG_">https://colab.research.google.com/drive/166Q9rVkcLleNyagrZSYjMF_X6Vy1ZGG_</a>
cp.4.5.4.b	colab	cp.4.5.4.a	cp.4.5.4.a colab	<a href="https://colab.research.google.com/drive/1FnI-aiNY6Umxq6Mq2254K9rS5h-oR78w">https://colab.research.google.com/drive/1FnI-aiNY6Umxq6Mq2254K9rS5h-oR78w</a>
cp.4.5.8	colab		cp.4.5.7 colab getting started	<a href="https://colab.research.google.com/drive/1EbhqLTxqcl4fr5camz38xPzYHI7SATt">https://colab.research.google.com/drive/1EbhqLTxqcl4fr5camz38xPzYHI7SATt</a> <a href="https://colab.research.google.com/drive/12nKjQitmSn5nmI86CFsadxYghhUne3BQ">https://colab.research.google.com/drive/12nKjQitmSn5nmI86CFsadxYghhUne3BQ</a>
cp.4.5.11.b	colab		cp.4.5.7 colab getting started	<a href="https://colab.research.google.com/drive/1EbhqLTxqcl4fr5camz38xPzYHI7SATt">https://colab.research.google.com/drive/1EbhqLTxqcl4fr5camz38xPzYHI7SATt</a> <a href="https://colab.research.google.com/drive/15twJmsgjdoJodiH7I9Mtb7ZQj3GSmIEd">https://colab.research.google.com/drive/15twJmsgjdoJodiH7I9Mtb7ZQj3GSmIEd</a>