Assignment 4

- · The assignments have to be done individually.

- · The assignments have to be answered in English.

- · The answers have to be uploaded in Toledo through "Assignments". Not using any other Toledo tool, and not by email.

- · Clearly indicate your name and student number in the uploaded answer.

- · You will be rewarded for correct answers, not for the format of your answer.

- · The name of the uploaded document should be **rXXXXXXX.pdf** where you replace XXXXXXX with your student number.

- · **Use the solution template to submit your solution.** In case no printer is available, feel free to mimic this template by hand.

- · You should upload also the intermediate computation in a different file. This is useful to check in case we have doubts on the solution you provide in the solution template, and also because we do check for plagiarism.

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[1]No need to report $\vartheta_{X_0|\dots}$ since they are equal to $(1 - \vartheta_{X_0|\dots})$.

Solution Template

Name: Tim Vanherwegen

Student number: R0748760

Fill in each answer in the respective box. Intermediate computations must be submitted in a separate PDF.

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1. Minimal number of parameters: 8

Parameter name:	2. ML estimate:	3. MOP estimate:
P(A=1)	$\theta_{A1} = \frac{5}{13}$	$\theta_{A1} = \frac{7}{16}$
P(B=1|A=1)	$\theta_{B1\|A1} = \frac{2}{5}$	$\theta_{B1\|A1} = \frac{1}{2}$
P(B=1|A=0)	$\theta_{B1\|A0} = \frac{3}{8}$	$\theta_{B1\|A0} = \frac{1}{2}$
P(C=1)	$\theta_{C1} = \frac{5}{13}$	$\theta_{C1} = \frac{7}{16}$
P(D=1|B=1,C=1)	$\theta_{D1\|B1,C1} = \frac{1}{2}$	$\theta_{D1\|B1,C1} = \frac{1}{2}$
P(D=1|B=1,C=0)	$\theta_{D1\|B1,C0} = \frac{2}{3}$	$\theta_{D1\|B1,C0} = \frac{3}{5}$
P(D=1|B=0,C=1)	$\theta_{D1\|B0,C1} = \frac{1}{3}$	$\theta_{D1\|B0,C1} = \frac{2}{5}$
P(D=1|B=0,C=0)	$\theta_{D1\|B0,C0} = \frac{4}{5}$	$\theta_{D1\|B0,C0} = \frac{5}{7}$