COMP9020 17s1 • Fun with Logic • 7 April 17

Solutions

Exercise 1.

- 1. Albert knows that Bernard does not know the date. This rules out that Albert has been told May (since otherwise he would have to consider the possibility that Bernard had been told 19 and hence would know Cheryl's birthday) or June (for the same reason, since otherwise Bernard might have known the date because he could have been told 18).
- 2. From the above, Bernard can conclude that Albert must have been told July or August, but he wouldn't know which of the two if he had been told 14. Hence, Bernard now knowing the date rules out that possibility.
- 3. Albert now also knows the date, which rules out that he has been told August (since otherwise he would have to consider both August 15 and August 17 as possible dates). This leaves **July 16** as the only possibility.

Exercise 2. The analyst essentially says, "Brent oil will trade in the range [\$US50..\$US63] until it no longer trades in that range." In logic, "A is true until $\neg A$ becomes true." Market analysts are paid well for their thoughtful predictions . . .