1. **two vs. both**  

In what ways do *two* (as a cardinal determiner) and *both* (as a determiner) differ? Both seem to have ‘twoness’ about them, but they are not interchangeable. Identify two differences between them. These differences can concern your intuitions about syntactic well-formedness, meaning, and/or use. Notes:

- For each difference, you'll want to present a pair of sentences that differ only in that one uses *two* and the other uses *both*.
- If well-formedness is the issue, presumably one of the pair will strike you as ungrammatical and the other grammatical. Use the linguist’s * to mark the ungrammatical one. In 1–2 sentences, articulate what you see as the nature of the contrast.
- If meaning/use is the issue, both sentences should be well-formed, but they should differ in what they assume about the context of utterance and/or what they convey. In 1–2 sentences, articulate what you see as the difference(s).

If you are interested in doing this problem in another language, see or write to the staff to discuss that idea – there are lots of options.

2. **Intersective?**  

Determine whether the complex determiner *not every*, as defined here, is intersective:

\[ [\text{not every}] = \lambda X \left( \lambda Y (\top \text{ if } X \not\subseteq Y, \text{ else } F) \right) \]

Required ingredients:

i. Provide a pair of English sentences that supports the classification as intersective or not intersective, along with arrows indicating which entailment relations do and do not hold.

ii. If an entailment relation doesn’t hold, use the definitions of intersectivity and \([\text{not every}]\) to explain why. The key step here is to identify sets \(A\) and \(B\) for which the entailment fails to hold and use them to construct your argument.

Notes:

- Phrases with *not every* are most natural when used in the subject position, as in *not every puppy escaped*. They are generally marked in other positions (‘*Chris freed not every puppy*’).
• This question involves ‘intersective’ in the sense of the Keenan article and the ‘Quantifiers’
handout, not ‘intersective’ in the sense of the Partee article and our discussion of adjectives!

• The statement $A \not\subseteq B$ means $A$ is not a subset of $B$, i.e., there is some $a \in A$ such that $a \notin B$.

• It can work to give this argument in terms of real-world properties, but it’s more reliable
to use abstract sets like $\{x, y, z\}$. If you use real properties, make sure you explain what
assumptions you are making about them.

3 Exceptives

Consider the following proposal for the meaning of the complex determiner every… except Jesse:

(E) $[\text{every... except Jesse}] = \lambda X (\lambda Y (\text{T if } (X - \{[\text{Jesse}]\}) \subseteq Y, \text{ else } F))$

We saw in our first in-class poll that the majority of people believe that this sentence entails that
Jesse is a student and entails that Jesse did not dance:

i. Does meaning (E) entail that Jesse is a member of the set $X$ (the restriction)? Explain why
or why not (1–2 sentences).

ii. For a sentence like every student except Jesse danced, does meaning (E) entail that Jesse did
not dance? Explain why or why not (1–2 sentences).

4 Monotonicity

Here is a possible (though not necessarily empirically correct) definition of the quantificational
determiner $[\text{many}]$:

$[\text{many}] = \lambda X (\lambda Y (\text{T if } |X \cap Y| \geq n, \text{ else } F))$

where $n \geq 0$ is a pragmatic free variable (presumably set to a large integer, though the size might
depend on the nature of $X$ and $Y$). Diagnose the second (scope) argument as upward, downward,
or nonmonotone, and explain why this holds using $[\text{many}]$. (Note: this isn’t a question about your
intuitions, but rather about what we are predicting with $[\text{many}]$.)