

### 2.2.1. Translation Problems

A. Using the translation key given below, **translate** each of the following English sentences into the formal language.

**Translation Key:**

**P:** It's raining      **R:** It's warm  
**Q:** It's cloudy

1. It's warm **and** it's **not** cloudy.
2. **Either** it's **not** raining **or** it's cloudy.
3. It's **not** warm **and** it's **not** raining.

B. Using the translation key given, **translate** each of the following English arguments into the formal language.

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**Translation Key:**

<b>P:</b> We're having ice cream	<b>S:</b> The board is damaged
<b>Q:</b> We're having cake	<b>T:</b> The processor is malfunctioning
<b>R:</b> We're having champagne	<b>U:</b> The memory is faulty

(1)

1. **Either** we're **not** having cake, **or** we're having champagne.
2. We're having ice cream **and** we're having cake.

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∴ We're having champagne.

(2)

1. **Either** the memory is faulty **or** the processor is malfunctioning.
2. The board is **not** damaged, **and** the processor is **not** malfunctioning

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∴ The memory is faulty.