Natural Language Processing

Consider the following dialogue between a user (U) and a natural language processing system (S).

U: There are three ships in the Pacific near the Johnson Islands and four in the Atlantic off Bermuda. The aircraft carrier, Nimitz, is in the Pacific with two frigate escorts, Ulysses and Poseidon. The Enterprise, which is a rapid assault ship, is in the Atlantic escorted by the frigate, Medusah, and two others.

S: OK

U: How many frigates are at sea?

S: 5

Describe one set of techniques that the system might utilise to support the dialogue. [8 marks]

What problems and challenges would the dialogue pose for these techniques? [12 marks]