

Chapter 8

The questions ask you to consider the behavior of the NLP case study in Chapter 8 and consider some simple modifications.

1. Looking at the world model in `nldb.pl` and the lexicon in `lexicon.pl`, what do you expect as the answer(s) to this query:

```
np([a, man, in, a, park, with, a, blue, hat], X).
```

Try the query. Did you get the answer(s) you expected? Explain.

2. Consider the query:

```
np([a, hat, in, a, park], Hat).
```

Why does this query fail? Show (with actual Prolog code) what you would add to the world model so that this query succeeds. (Hint: this requires only changes to the world model).

3. After making the modifications from question 2, re-run the query in question 1. Does the result change? Explain what you see. (Hint: the noun phrase is ambiguous in an unintuitive way).
4. Consider the two queries:

```
np([a, man, in, kew_beach], Man).  
np([a, person, in, kew_beach], Person).
```

Why does the second one fail? Show the changes that you would make so that the second query also succeeds. (Hint: this requires only a lexical change).

5. The words "someone" and "something" are considered pronouns. What modifications would you make to accommodate these queries:

```
np([someone, in, kew_beach], X).  
np([something, in, kew_beach], X).
```

(Hint: you will need to modify the lexicon and the grammar).

6. What modifications would you make to accommodate simple "wh Word" questions such as this:

```
wh([who, is, in, kew_beach], X).  
wh([what, is, in, kew_beach], X).
```