

1. Consider the following PROLOG facts:

```
weather(cool,cloudy).
weather(cold,snowy).
weather(bleh,rainy).
weather(warm,sunny).
weather(hot,sunny).
weather(warm,dry).
```

Save the facts above in a file named `one.pl`. Then:

- (a) Start an interactive session (on gottlieb) including the simple facts:

```
gottlieb% swipl -s one.pl
```

- (b) Try the query shown below. What is the answer?

```
?- weather(hot,snowy).
```

- (c) Write a query that will list all the types of `sunny` weather.

2. On the distant planet “Foo-Logica”, they have strict rules about who trusts whom. Person X trusts Y if and only if:

- X inherently trusts Y, or
- X knows two different people who trust Y.

Trust is not symmetric and not transitive.

The relation of **knows** is symmetric. If X knows Y, then Y knows X, even if both relations are not listed among the basic facts. There are five people living on Foo-Logica: joe, jack, sue, betty, and bill.

We have the following facts:

joe knows jack	jack trusts joe
joe knows sue	bill trusts joe
joe knows betty	betty trusts jack
sue knows betty	
jack knows betty	
bill knows betty	

#### Your tasks:

- (a) Write Prolog facts to represent the facts listed above.
- (b) Write Prolog rules to:
- Ensure that the relation **knows** is symmetric.
  - Implement the rules of trust.
- (c) Test your Prolog code to decide:
- Does Betty trust Joe ?
  - Does Sue trust Jack ?