Our goal

We need to determine if an argument like the one below is a good one. It's deductive. So, it's good if it is both valid and sound. Our focus at the moment is validity:

```
Bill: "God must exist."
Jill: "How do you know."
Bill: "Well if the Bible is accurate, then God exists."
Jill: "Why should I believe the Bible?"
Bill: "Well, if God exists, then it has got to be accurate!"
```

Validity

An argument is valid just if it is impossible for the conclusion to be false and **all** of the premises to be true.

Invalidity

An argument is invalid just if it is possible for the conclusion to be false and *all* of the premises to be true.

Truth Tables

Truth tables allow us determine if it is possible for the conclusion to be false and, at the same time, the premises to be true.

Strategy: construct a large truth table with smaller truth tables as their parts. One part is a truth-table for the conclusion. There is also one truth-table for each of the premises. After constructing the large truth-table, we will see if any line has a false conclusion and true premises.

Example

```
Bill: "God must exist."
Jill: "How do you know."
Bill: "Well if the Bible is accurate, then God exists."
Jill: "Why should I believe the Bible?"
Bill: "Well, if God exists, then it has got to be accurate!"
```

'P': God exists

'Q': The Bible is accurate

- P1: If God exists, then the Bible is accurate. (p–>q)

- P2: If the Bible is accurate, then God exists. (q–>p)

- C: God exists. (p)