

Logic Puzzles

Note Title

21/11/2005

Island of Knights and Knaves

Knights always tell the truth.

Knaves always lie.

Inhabitant says:

There is gold on this island is the same as I am a knight.

What can you deduce?

Rule: If a native makes a statement, then

$$A = S$$

where A is the truth value of "the native is a knight",
and S is the truth value of the statement.

Inhabitant says:

I am a knave if there is gold on the island.

There is gold on the island if I am a knight.

Rule: If a native is asked a question, their response is the truth value of $A = Q$ where A is the truth value of "the native is a knight", and Q is the answer to the question.

Portia's Caskets

There are two caskets, gold and silver, into one of which Portia placed her portrait. The caskets each have an inscription written on them, as follows:

Gold: the portrait is not in here

Silver: exactly one of these inscriptions is true

G the portrait is in the gold casket

S

g

s

Gold: the portrait is not in here

Silver: exactly one of these inscriptions is true