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Alice...

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Alice...



© John Tenniel 1865

Alice...



© John Tenniel 1865 wishes to send messages to, and receive messages from...

 $\mathsf{Bob}$ 

## Bob



© Keith Chapman 1998

#### Bob



© Keith Chapman 1998

securely. Their opponent is the eavesdropper...

▲□▶ ▲圖▶ ▲臣▶ ★臣▶ ―臣 …の�?

Eve



© Lucas Cranach 1547



© Lucas Cranach 1547

who is extremely clever and has access to considerable, but not unlimited, computing power. They communicate via a reliable postman...

▲□▶ ▲圖▶ ▲臣▶ ★臣▶ ―臣 …の�?

# Pat (obviously)



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© Ivor Wood 1981

### Pat (obviously)



© Ivor Wood 1981

who will deliver correctly any message he is sent but is unable to prevent Eve from reading it on the way. For real-world applications it is also necessary to be wary of...

▲□▶ ▲□▶ ▲□▶ ▲□▶ ▲□ ● ● ●

## Fred



© Hanna-Barbera 1960

(ロ)、(型)、(E)、(E)、 E のQで

#### Fred



© Hanna-Barbera 1960

a fool, who will instantly publish any data that comes his way.

▲□▶ ▲圖▶ ▲臣▶ ★臣▶ ―臣 …の�?

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We are going to consider the problem mainly from the point of view of Alice. She cannot trust anybody except Pat

▲□▶ ▲圖▶ ▲臣▶ ★臣▶ ―臣 …の�?

We are going to consider the problem mainly from the point of view of Alice. She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable)

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We are going to consider the problem mainly from the point of view of Alice. She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function.

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She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function. Eve is hostile;

She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function. Eve is hostile; Bob is not trustworthy.

She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function. Eve is hostile; Bob is not trustworthy. Fred is beyond the reach even of mathematics.

She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function. Eve is hostile; Bob is not trustworthy. Fred is beyond the reach even of mathematics.

ション ふゆ アメリア メリア しょうめん

Mit der Dummheit kämpfen Götter selbst vergebens.

© Friedrich Schiller 1801

She cannot trust anybody except Pat (we shall deal later with the problems that arise if Pat is unreliable) and he is limited to a single function. Eve is hostile; Bob is not trustworthy. Fred is beyond the reach even of mathematics.

Mit der Dummheit kämpfen Götter selbst vergebens.

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It is impossible to make anything foolproof, because fools are so ingenious.

ション ふゆ アメリア メリア しょうめん

I have failed to trace the  $\bigodot$  for this one.