

How much space do we need to store
a movie on a computer (2 hours)

We need to store sound and
video.

Sound

Sampling rate: 44,100

Space/point: 16 bits

All in stereo.

$$S = 2 \text{ [hours]} \times 3600 \frac{\text{[second]}}{\text{[hour]}} \times 44100 \frac{\text{[point]}}{\text{[second]}} \times 16 \frac{\text{[bits]}}{\text{[point]}} \times 2$$

Video :

A video is a collection of images:

24 images per second.

each image is a set of pixels: 1M pixels

each pixel is stored of 3 bytes.

$$2 \frac{[\text{hours}]}{[\text{hour}]} \times 3600 \frac{[\text{second}]}{[\text{hour}]} \times 24 \frac{[\text{frame}]}{[\text{second}]} \times 1 \frac{[\text{Mega pixel}]}{[\text{frame}]} \times 8 \frac{[\text{bytes}]}{[\text{pixel}]} \quad (2)$$

$$2 \times 3600 \times 24 \times 1 \times 8 \quad [\text{Mega bytes}]$$

Exercise knights and knaves.

Sue, Bob, Mel.

Sue: "Only a knave would say that
 "Bob is a knave"
 \Leftrightarrow "Bob is a knight"

Bob: "It is false that Mel is a knave"
 "Mel is a knight"

Mel: "Bob would tell that I am a
 knave".

Sue	Bob	Mel	Sue Says	Bob says	
K	K	(K)	T	T	(F)
K	(K)	k	T	(F)	T
(K)	(k)	K	(F)	(T)	T
(K)	k	k	(F)	F	F
(k)	K	K	(T)	T	F
(k)	K	k	(T)	F	T
k	(k)	K	F	(T)	T
k	k	k	F	F	F

K: Knight
k: knave

