

Part 2 – The Solution - Questions

In the following questions we will take the logarithm to be to the base 2.
The solutions are on the next page.

Question 1

A biased coin will fall on tails with a probability of 0.499. what is the entropy of a biased coin toss?

Question 2

Show that the entropy of n events of equal probabilities is $\log_2 n$.

Question 3

What is the entropy of one event?

Question 4

The main reason to take the logarithm to the base of 2, will become clear in this question.

A bit can be zero or one with equal probability. What is the entropy of a bit?