1 Problem 1: C&T problem 5.2

Forget about Martians, $S_1$ through $S_m$ denote the output symbols of the source. Of course, $P(S_i) = p_i$. The question is: Regardless of the value of the probabilities $p_i$, what is the lowest size $D$ of the encoding alphabet which can allow implementing the given codeword lengths in a prefix code?

2 Problem 2: C&T problem 5.9

Hint: The answer is a trivial code whose $H(X) \approx 0$

3 Problem 3: C&T problem 2.10