Handin2 EITN45, Anthony Smith

All calculations can be found in the attached handin2.m file, where most parts are sufficiently commented for readability.

Table 1: Answers

Assignment:	Answer:
compression ratio	1.7801
average code bits per source symbol for the file	4.4940
entropy for the estimated probability function	4.1764
distribution of 0s and 1s, 1s in regard to 0s	0.5107

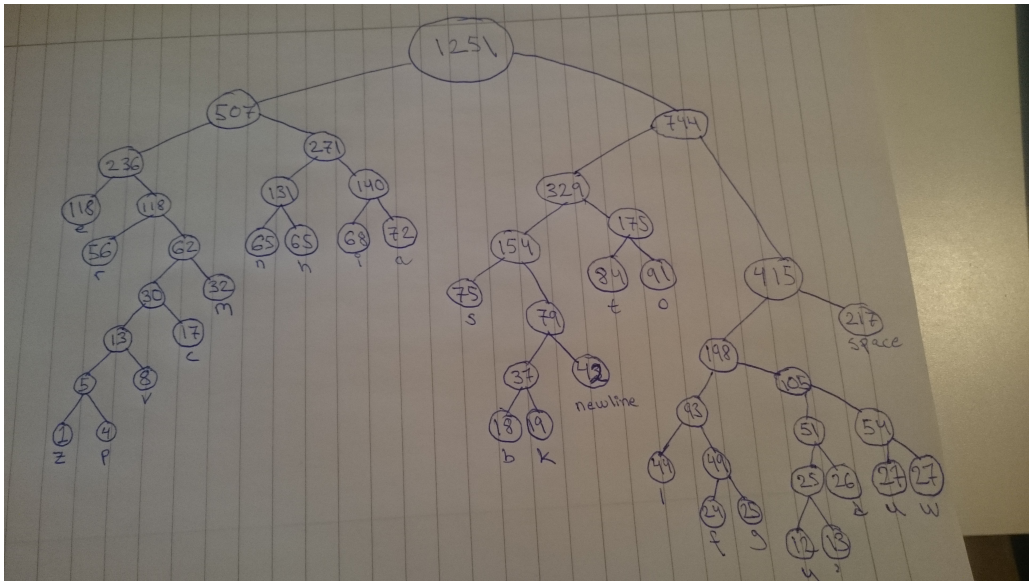

Figure 1: Huffman coding tree

The optimal binary source code in table 2 below, has been constructed for each symbol by starting at the root, and every turn to the left means 0, and every turn to the right means 1, until the symbol is reached.

Table 2: Optimal binary source code

Character:	Code:	Character:	Code:
a	0111	o	1011
b	100110	p	00110001
c	001101	r	0010
d	110101	s	1000
e	000	t	1010
f	110010	u	110110
g	110011	v	0011001
h	0101	w	110111
i	0110	y	1101000
k	100101	z	00110000
l	11000	’	1101001
m	00111	newl	10011
n	0100	space	111