

Assignment 3

1. Result

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-----Huffman coding-----
Character: a b c d e
Probability: 0.05 0.1 0.2 0.25 0.4
e: 0
d: 10
a: 1100
b: 1101
c: 111
HuffmanCodes :0.003sec

-----Arithmetic coding-----
Symbol  Probability      Range_from      Range_to
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a        0.05                0                0.05
b        0.1              0.05            0.15
c        0.2              0.15            0.35
c        0.00325 0.00425 0.001
d        0.0036 0.00385 0.00025
e        0.00375 0.00385 0.0001
Code word for abcde is: 0.00375

Decoding:
Code    Output  Range_from  Range_to
0.00375 a        0          0.05
0.075   b        0.05       0.15
0.25    c        0.15       0.35
0.5     d        0.35       0.6
0.6     e        0.6        1
Text for 0.00375 is: abcde
Arithmetic coding:0.003sec
```