

```

clc;
clear all;
close all;
symbols=input( 'Enter the symbols:');
prob = input('Enter the Probabilities:');
[dict,avglen]=huffmandict(symbols, prob);
temp=dict;
for i=1: length(temp);
    temp{i,2}=num2str(temp{i,2});
end
disp ('Huffman Disctionary:');
disp (temp);
actualsig=randsrc (100,1, [symbols;prob]);
encoded=huffmanenco(actualsig,dict);
decoded=huffmandeco (encoded, dict);
disp ('ENCODED Huffman code:')
disp (encoded')
disp( 'DECODED Huffman code:')
disp(decoded')

```

Output:

Enter the symbols:[1 2 3 4 5]

Enter the Probabilities:[0.4 0.2 0.2 0.1 0.1]

Huffman Disctionary:

```

{[1]} {'1'   }
{[2]} {'0 0 0' }
{[3]} {'0 1'  }
{[4]} {'0 0 1 1'}
{[5]} {'0 0 1 0'}

```

ENCODED Huffman code:

Columns 1 through 28

1 0 1 1 0 0 0 1 0 1 1 0 1 0 1 0 1 0 0 0 1 1 0 0
1 0 1 0

Columns 29 through 56

0 1 1 0 0 0 0 0 1 0 1 0 0 0 1 0 0 1 0 1 0 1 0 0
1 1 0 0

Columns 57 through 84

1 1 1 1 1 0 0 1 1 0 0 0 0 0 1 0 1 1 1 1 0 0 1 1
0 0 0 0

Columns 85 through 112

0 0 1 0 0 1 1 0 1 1 0 0 0 0 0 0 1 1 1 1 1 0 0 0
1 0 0 1

Columns 113 through 140

0 0 0 1 0 0 0 0 0 0 0 1 0 0 1 0 1 1 0 1 1 1 0 0
0 1 1 0

Columns 141 through 168

0 1 0 0 0 1 0 0 0 0 1 1 1 0 0 1 1 1 1 1 0 1 0 1
0 1 0 0

Columns 169 through 196

0 0 0 0 1 0 1 1 0 1 1 1 0 1 0 1 1 0 0 1 0 0 1 0
0 0 0 0

Columns 197 through 213

0 0 0 0 1 0 0 0 0 0 0 0 1 1 0 1

DECODED Huffman code:

Columns 1 through 28

1	3	1	2	1	3	1	3	3	3	2	1	1	5	1	4	2	5	1	2	1	5	1	3
4	4	1	1																				

Columns 29 through 56

1	4	2	5	1	1	1	1	4	2	2	1	4	3	1	2	2	1	1	1	1	1	2	1
5	5	2	2																				

Columns 57 through 84

1	5	1	1	3	1	1	2	1	1	5	5	2	1	1	1	4	1	1	1	3	3	3	2
2	1	3	1																				

Columns 85 through 100

3	1	1	3	3	1	5	3	2	2	2	1	2	2	4	3
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