

```

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

Columns 197 through 213

0 0 0 0 1 0 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 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 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