

```

c = 'AAAABBCCD';

[A,P] = findAlphabet(c);

[Psort,Isort] = sort(P,'descend');
A(Isort);
symbols = zeros(length(A),1);
for i = 1:length(A)
    symbols(i) = A(i);
end
symbols = cellstr(num2str(symbols));

text = zeros(length(c),1);
for i = 1:length(c)
    text(i) = c(i);
end
text = cellstr(num2str(text));

n = 170;
% e = zeros(n,1);
a = zeros(n,1);
r = zeros(n,1);
e = entropy(P);
K = length(symbols);
for i = 1:n
    [dictT,PNew] = tunstall(symbols,P,i);
    % e(i) = entropy(PNew);
    a(i) = AvLengthTunstall(dictT,PNew);
    r(i) = 2*ceil(log2(K+i*(K-1)))/a(i);
end

plot(1:n,r,'o')
hold on
plot(1:n,e,'x')
hold off

```

