**HUFFMAN CODING**

clc;

p=input('Enter the probabilities:');

n=length(p);

symbols=[1:n];

[dict,avglen]=huffmandict(symbols,p);

temp=dict;

t=dict(:,2);

for i=1:length(temp)

temp{i,2}=num2str(temp{i,2});

end

disp('The huffman code dict:');

disp(temp)

fprintf('Enter the symbols between 1 to %d in[]',n);

sym=input(':')

encod=huffmanenco(sym,dict);

disp('The encoded output:');

disp(encod);

bits=input('Enter the bit stream in[];');

decod=huffmandeco(bits,dict);

disp('The symbols are:');

disp(decod);

H=0;

Z=0;

for(k=1:n)

H=H+(p(k)\*log2(1/p(k)));

end

fprintf(1,'Entropy is %f bits',H);

N=H/avglen;

fprintf('\n Efficiency is:%f',N);

for(r=1:n)

l(r)=length(t{r});

end

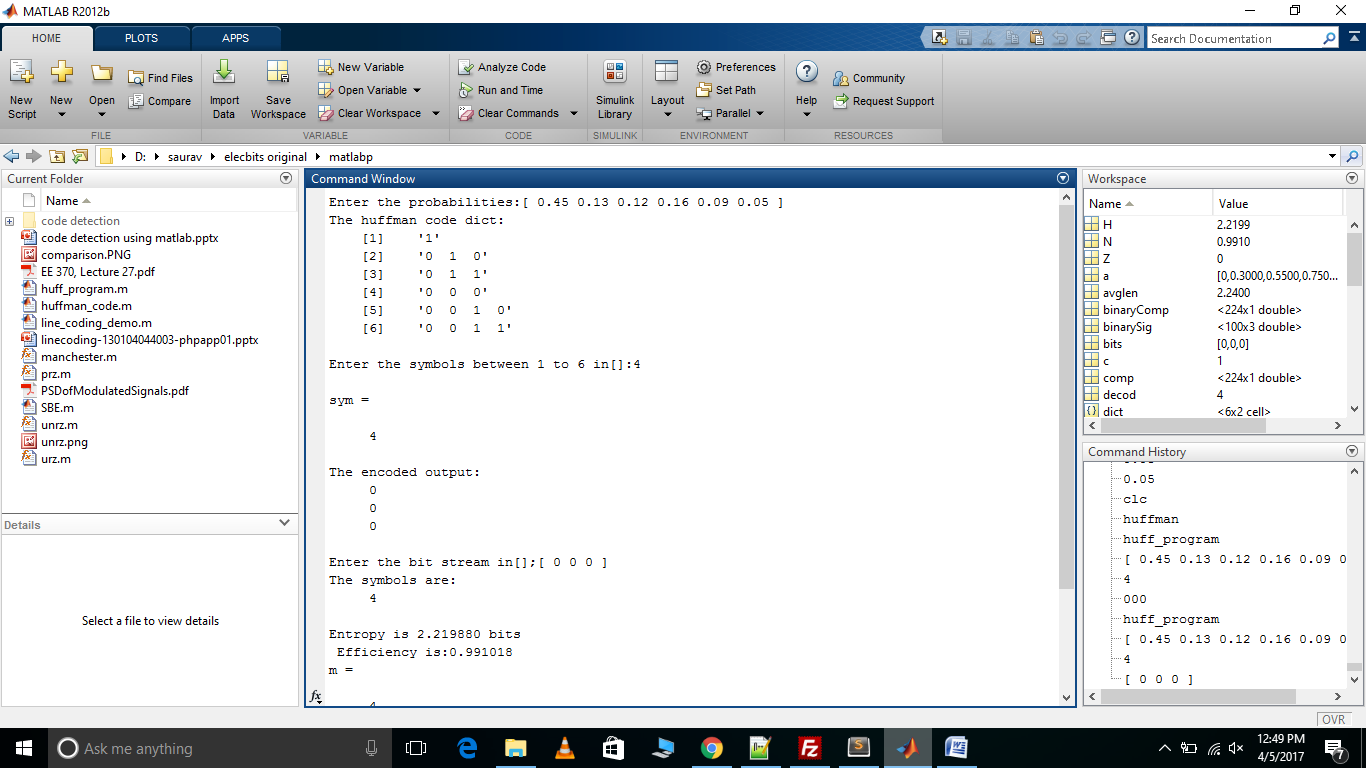
m=max(l)

s=min(l)

v=m-s;

fprintf('the variance is:%d',v);

**ENTROPY, EFFICIENCY AND CODEWORD**

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