

B.Tech. Computer Science and Engineering (Cybersecurity)

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Aim: To perform cryptanalysis of the Vigenere cipher using Friedman test

Code:

Language: C

Editor: Atom

Compiler: clang/ZSH

[illegible]

```

40     if (temp[i]>0) {
41         sum+=(temp[i]*(temp[i]-1));
42     }
43 }
44
45 float ioc = (float) sum/(b*(b-1));
46 printf("Index of coincidence: %f\n",ioc );
47 return ioc;
48 }
49
50
51 int stringGenerator(int m){
52     int key, k=0;
53     char string_Y[1300];
54     int w=0,z,p,count=0, l;
55     for (int a = 1; a <= m; a++) {
56         for (int i = 0; i < a; i++) {
57             for (int j = i, k = 0; j < strlen(cipher_text); ) {
58                 string_Y[k]=cipher_text[j];
59                 j+=a,k++;
60                 l=k;
61             }
62             string_Y[l]='\0';
63             printf("m=%d String %d \n",a, i+1);
64             printf("%s\n",string_Y[k]);
65             k++;
66             ioc[w]=IoC(string_Y);
67             w++;
68             count++;
69         }
70     }
71
72     printf("\n\nEnter correct length of keyword to continue : ");
73     scanf("%d", &key);
74     return key;
75 }
76
77 int main() {
78     int m;
79     printf("Enter value of m: ");
80     scanf("%d",&m);
81     printf("\n" );
82
83     int counter=0;
84     int num=m;
85     while (num!=0) {
86         counter=counter+num;
87         num--;
88     }
89
90     for (int i = 0; i < 36; i++) {
91         string_Y[i] = malloc(sizeof(char)*1300);
92     }
93
94     int z=0;
95     for (int a = 1; a <= m; a++) {
96         for (int i = 0; i < a; i++) {
97             char* p=string_Y[z];
98             for (int j = i; j < strlen(cipher_text); ) {
99                 *p=cipher_text[j];
100                 j+=a,p++;
101             }
102             *p='\0';
103             z++;
104         }
105     }
106
107
108     int key=stringGenerator(m);
109
110     counter=0;
111     num=key;
112     while (num!=0) {
113         counter=counter+num;
114         num--;
115     }
116
117     for (int i = 0; i < key; i++) {
118         q[i] = malloc(sizeof(float)*26);
119     }
120
121     int string_counter=(counter-key);
122
123     z=0;
124     for (int a = 1; a <= key; a++) {
125         int temp[26]={0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0};
126         int b = strlen(string_Y[string_counter]);
127         float* arr=q[z];
128
129         for (int i = 0; i < b; i++) {
130             for (int j = 0; j < 27; j++) {
131                 if(string_Y[string_counter][i]==alphabet[j]) {
132                     temp[j]+=1;
133                     continue;
134                 }
135             }
136         }
137         for (int k = 0; k < 26; k++) {
138             *arr=(float)temp[k]/b;
139             arr++;
140         }
141         z++;
142         string_counter++;
143     }
144
145     for (int i = 0; i < 7; i++) {

```

```

146     Vg[i] = malloc(sizeof(float)*26);
147 }
148
149 /*
150 vg 0 1 2 3
151 g=0 x y z w -> x = Sum of 26 vals use v_shift, sum it, input in vg
152 g=1 x y z w
153 g=2 x y z w
154 */
155
156 //creating the table
157
158 z=0;
159 int ind=0;
160 for (int a = 1; a <= key; a++) {
161     float* v=Vg[z];
162
163     for (int g = 0; g < 26; g++) {
164         float v_shift[26]={0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0};
165         float v_sum=0;
166         for (int i = 0; i < 26; i++) {
167             v_shift[i]=q[ind][(i+g)%26];
168             v_shift[i]=v_shift[i]*p[i];
169             // printf("The q index : %d \t", ind );
170             // printf("The i val: %d \t",i );
171             // printf("The g val: %d \n", g);
172             // printf("The index val: %d \t", (i+g) );
173             // printf("The q array val: %f \t", q[ind][(i+g)%26]);
174             // printf("The prod val: %f\n", v_shift[i]);
175         }
176         for (int i = 0; i < 26; i++) {
177             v_sum+=v_shift[i];
178         }
179         *v=v_sum;
180         v++;
181     }
182     z++;
183     ind++;
184 }
185
186 //finding keyword
187
188 for (int i = 0; i < key; i++) {
189     // printf("\n\nVg for String %d V\n",i+1);
190     float max=Vg[i][0];
191     int max_i=0;
192     for (int j = 0; j < 26; j++) {
193         // printf("%f\n",Vg[i][j]);
194         if (Vg[i][j]>max) {
195             max=Vg[i][j];
196             max_i=j;
197         }
198     }
199     keyword[i]=max_i;
200 }
201
202 //print table
203
204 printf("\n\nTable: \n");
205
206 int index=0;
207
208 printf("g \t Vg1 \t\t Vg2 \t\t Vg3 \t\t Vg4 \t\t Vg5 \t\t Vg6 \t\t Vg7\n");
209 for (int g = 0; g < 26; g++) {
210     printf("%d \t %.4f \t %.4f \t %.4f \t %.4f \t %.4f \t %.4f \t %.4f\n",g,
211     '
212     Vg[index][g],Vg[index+1][g],Vg[index+2][g],Vg[index+3][g],Vg[index+4][g],Vg[index+5][g],Vg[index+6][g]);
213 }
214
215 printf("\n\nKeyword: \n");
216 for (int i = 0; i < key; i++) {
217     printf("%c", alphabet[keyword[i]]);
218 }
219
220 //decryption
221
222 int temp;
223 char new_txt[1300]="";
224 char ch;
225
226 for (int i=0,j=0;cipher_text[i]!='\0';i++,j++)
227 {
228     if(j==key)
229         j=0;
230     ch = cipher_text[i];
231     int posn = findIndex(ch);
232     int key_posn = keyword[j];
233     temp = (posn - key_posn)%26;
234     if (temp<0)
235         temp= (26 - key_posn + posn);
236     temp+='a';
237     new_txt[i]= temp;
238 }
239 printf("\n\nThe plain text is: ");
240 printf("%s", new_txt);
241
242 return 0;
243 }

```

Complete Output:

```
Project -- -ssh -- 153x70
(base) anish@Anishs-MacBook-Pro: Project % clang vig.c -o vig
(base) anish@Anishs-MacBook-Pro: Project % ./vig
Enter value of m: 6

m=1 String 1
XCIUIHTVOGVRHLJEJYXAVICEJFWKRVUAAEVPVNEQLFZQFQBKXOIXUGVJXVGLB8BXJI0BFZVKCSGHNITYJBXTSKWXZHWZAYSEPINIIZWBRMITIFMQJRKLKASRIMJIPICEMIGGEIINWUTPWVFFEDRJXJ
XHEITSYNDQRRVLLIMZGWLHZKPFKHDRRA8R9CKEAKADINYIJJLWVP6GQXMSCSNXVVGOTIKLXJYIAKHVXREKTVZMLPLEERIEJBGKZQVRLBNMSDILBQZWLRSUPZFXVWVSQIIXXGJRKIFMSAICIUMVJRZQ
UNQWYEMJYDSEKXSHWVLIKXCFR6QZKVFZJWHDIMJTB8MIJ3DQZVZFEUHWKPVVXVQVJYDREPXYVS30DZJNEJKEJXZHWYVDFXQZVRPMB8IJSJVBQDPWFIEOTSEFYMTLBSJTOJDMVJ3RBP1T0I
CHMZVKEAG63QDFBQVZSFLFTHJ3SNP0AZXZMLZDQCFXGZWEJRXJHVQJRTOKYIUHQHYEMUTKXSEWHKHPZPMEMLZLRVLSAXYIWHGPWVLAMNEGT08INFFXZPLZRLKWLWEOEZMAG0JXSFHZJZVPVWXS
EMUGIOAFVCLSMEXWLVXJRRMEEXTISF8BYIMUXMAXYIUHQHYEMUTKXSEWHKSMQIJBWNIIZWADZYEOVMEEXKXIFMEKLANSTSEFYIMTELBSIKWLWVJZJZHMKQVRESLIVJZZHMLZHRXSUIELKWLWBXC
EJHMLMRBVHLAIOITLFHPJQPMVVL0LRKAMGVRESLIVGTIKLIYFPEFRXCKIHHTVOCNIVHRJXYENKEICJMOOIMFLPDXXNNEHLAIYMOJMLWSEWOBXCMEXZISITYLBZZFIEFVLVVMLBPGSEKQBRBAYMDXX
CIIITZWISKQCMFZIEEYQDQZSFPLZXYIJMSNIYDQXKDWCELSIAVQMLXRSIOOBXGFRYKINWZRVNWQVPEUTHZQZGKIVDZRGQZJYVQWSGHJXYI3LXGIEXMEIEGTJHEXLKLSMEYHIKLIINECPGYXCIYDM
MKPVGFTZKZYRYISVIGVFLCEKLSOIWIVRLASTASYJHJNSDYUHAHZFRXMYUAVQSGGEPKJXIOLRXOAXDPCRWKJRXSAGKCEIKMEIHZRXHVHIUTMUPDGUIITXZESSMMLJASIKMXJ3ISLXGDPFZWKXTEHK
XOPVZXDBRWKSLONQEMKSHJYIXWVLSYSR
Index of coincidence: 0.045527

m=2 String 1
XIITOVJYXVXJWRAEYVNGFQBGUQVXGBBDFVFCGNTJXSHZYEIIZBMTFQRLARMJIEIINUPWIFD3JETSNOVRIZGLZFHRRACKAIYILJVGKSSXVTKKXIKVRKWPEREGQBRNDLQWRUZFWSIXXJF3SIIMJZ
UUYITDEXSIXKFGQZVMNMFRI0ZFYUYXVJXJDEXS8ZJEXWNYKHPVNBWJBOPFITEMYEBIJJMIIRPIHGV6GJDFGXSLVSPAXMZVFWGERJVTJXIHHEUXSWHZPFLRLAYWHWVANGDIFXPZKWEWGJZFZVPVM
EUIJAVKHXKREXIFGIXMAUYQYMTDEHMI8NIAWEXMETEKANTEMYEBIKWZKHVELVZHNZRSIEWEJ3MRHADTFPKWVORAGRSUVTKIFERCIHVCIHJYNECHOMLDEKHAJYJMSWBCEZIIYBZIFLVBGDEBAMX
CIZKCEZQVQSGZVJ3TQXCLSAQLRIXGGRKNZYVETZZKVGZJGSHXILJIXEETHKXSEHILNCGKJIMYKGJTRXVIVFKELQWVLSYHNDUHFUJOVSEPOGROAPRXJAKS1MIZXITUTDEXMSKXTXSOZWXEH
XPZORSNLN8SHYXIVCY
Index of coincidence: 0.044253

m=2 String 2
CUHVQRHEJAEIFXVUAPPELZFXEIXIJVLRI8ZKSHYBTWZWASPNRIIIMJKKSIPGCEIWTZVFERKXHVIGWRMLZMHWKXORSKEKONJWPQGMQCNVQILJYAHXETZLIEJIKZVLWSIBZLSPXVQVIZGRIMACUVRG
U4MYKSHWVLRDPZKFAIITBMJOKHMEVYVVPYJDIHEITJZB8HVSXVMECSITLSDIXD3IGIOCKZAGQVNVZFJH3QZJLOXZ33HURDUDYVYNTDEKPPMIZRVSXIDPULMEI8NFZLRLWQZAGKSHZVXKS
HQOFCESEVLRJWIXSVMUKHIEHUXSKNQUJWIZHOYOEKXFLSIFSTLSLW1JZGWSJLHKKULKWEHLBYLILHJPLMXVELIGILYFPXWHTONVREKIJ3DFPNSELIMQLEDQXMXS3TLZFEVVLPSKBBYD
IITIKWIEIXDZFLIXIMVQKWE8I8VXMS0BCFYIWRNOPUHQGIDRQVYQWJ3YXGEMIGJELMLWIKIEPYCDQMPGFZ3YSGVLCCKSIIRAATKJ3YAZRWAG0GRJLXKX0CWRHS0CEKEHRRHMP0ITZSLM1M1JLOPFKTEK
GVX8WKQVWGJWLSSR
Index of coincidence: 0.046307

m=3 String 1
KUTLOEXIXKXAVEFFBIOGRYBVSNYVMAENZRTMKRRIIMOIZUEJZVTOVRIZLWFAQXQJ3JQXCKXGJIMHMLRJ3QVB8LZRPVIZJISCHRUWKEKKLCPGCFW1FMTVHXVJYE8HJTWIPXVB88BQFEIESJ0I0I
CQKQZVSYFNVAZZQ3RBJQIET8KZMLRLXMPWQBFZLEZQKZFPEACMYKREXFYMYHUMDSUBIEWEXMLNSYTBWJHGEI2WEXZILB8WBHTHMKMGDEUGKYEKTCVJ3EJ0FNDHJ3LOCKIT8FFWPEABD
C1WKKIVDSLYMIDDESVLSDCRIZNVUZQVRZY5JIXIMEJXLEIGEGYVFXVIXKOLAY3DAFQWGERKJIDRHXGSIIRVUGZTSLMTLOFEXXQVWLNDQYWS
Index of coincidence: 0.044885

m=3 String 2
CIVVHYACFRUEPZQXUJLBFKQJITWYFIMWIKQAJGIEITWFDXEMWMDHJXSSCK3L3QKSHVTLXAVELIE0ZBWMBSZVSI8FAIYZVJLQWVS98KZIMBIGZEYFYVDPSONKXHYHRNJ3VPETFMLIH3Q8
H2EQDMMFTJ3MZQFZEKXVUKMXKHPFZRSQWNTI8PWWQWZHXMMIFLEVRJIBT8IAIGETSHQWITWKKHLEAIEIESKIZKZSVZMHSXWCLRLQLPPLVASITLFLCHVHKKMILXELYGW8BMZSYZIVVLQKRYX
IZICFEKWFZISVXWLIQXIDQWRNPTQKQGVGGKJ3E8HLSYIICYIDKGTZVGFCLIVASKNYHRUASGK18XPW3SEKHMKHPUTEMJIXIXPHTGZ8S8GWHIVSY
Index of coincidence: 0.047437

m=3 String 3
IH0R3JYVEVAPNLGEQYVBXZCHTBSZSIZIBIFJLSMPEGIWPVFRJHSGRLZWKZHRREANIVWGSNVIXYKXKZPEEKQLNLIQXWQXGKMIJQGETSXHIGFZVAMIRJQXUMVVRXJZEEZNFZPWXQWISYTBWJXRII
WHAJYZELH8KLVXNJ3GT7YHJUDHPLMAI8VAEDNXLKWEASJZSVYUOVSKLRXSGMXKHXKEMKINZATEKFKSTFMLLVZKL3HLRUEWCHMAIFJWLRLMRVLIIPRMH0IRYVCPKXEMPEAMMDWEXILZELVBSGBMX
IT5KCEZP3JNCKJAMROXFKWQOGEZTQJWHYLX0ITE8MKNXPMPQZRSVLSEWRITHSUZKYVGP3QXACXKACIEZHIMDIXSMKJSGZKEKPRXKNESJXLCXR
Index of coincidence: 0.044357

m=4 String 1
XITOLVYJRAQGBUQ8DQVXXKEITBTLQJRG6NIDJTRNJ2Q6FRKIIJGSXKIVKWEGRNLWFSXJ3FIMQZQXQOCCFZMIGFYJDXDBXNEVXYVNBPIEMJRIHJVGGDSTSMVGEJXHEXWFLLYHVNDFPKEWJFVV
EITVMEK8IAUETINRWKXIEIEMABYUWELMZRIIMWTRAPQWARTIECHQYEMDEAJWJCZ18ILW8G4IXWCZVMPYSO0ALIXRNVZTV63SLXIETXSKCYKXSVXVLMLSHQHXQSPXARJASMZVDT8MSXOWE
XZRLQSYVC
Index of coincidence: 0.044303

m=4 String 2
CHQHIIFVAPLFXQJLXBKHYTZAPRIJ3KIPMEWZFRXJGRMMXRXKNJPGCVIJAXTLEJZLSBLQV9RCMVGSHUSKYGPAIBJWEMYVRDEIKFHRXSWCFTSIXGMMKGYVFNHNLZCJHRYQMKPMRISPLEBFLLOAXHV
MOCELRISYUXHEQJWQIWWYXFLITSLJWRIZLXWMLVILJMLMEIITYMTNRIDFIEQDMXKTZEVLSBYX1IWI2LINDWBXOCYVNP8HGOQYGEJ3LMIICDPDFZSVCSIAIYZWAGRIXDWRGEERHMTSLJLPKE
QXW8EGLS
Index of coincidence: 0.045658

m=4 String 3
ITVJXWRENFQOGBYFNCJSHYIZMFRAMI1IWFJESOVZLZHACAYLVXS5VKKRVRPQ8BQDQZWXKSIJUYTESICGVWMRTZUXXUESZJXNPH83QFTYEIJJPIGEJFXLVPXZFWRTVIHUSHLRAWAGIZWEGZPM
UALKXRFKFRXYIIMK8MMATYEI2KEVH8SEB3MQHKGDSQV8KFR1JNCLXHYMSBEIYZFBERNCZSMEG5ZJXC3QROGKZWEKZ2GHIJXEHKEINGIMVTRIFEOVINYUFUVEKOOPKXKIIIXUJXKJTXKXZ
PQSNHXYI
Index of coincidence: 0.044262

m=4 String 4
UVREAEKUPZEIITVIZSIBWMSNIMKSCIGITVEHVMWLKHDSEQJWQMNOLVHEZLTKWIZ3XSVGIIAURHEXWHLRFZIIHQHFFYP3JHKZIEZBIXGESILWQJICZAQ8ZFJ0ZQJ3G0UYTEPNZVXGVTNWRWZGZPM
GFSVJXWBMHETIUSK8WMDQDEKESSTLWIZG8JWHLX8HILNPLVJLPHXOYX0J1PNLMLXSLFVVPK8DITKEDFYXMYKEIM8BFIROUQIRVWJQMGELYEYQDMQZGLKIRAKSARYG6JLXCHSKHMPJZMAMVFTK
VBKVMJWSR
Index of coincidence: 0.046822

m=5 String 1
XIVEVFRPFOIOKXFTTSHIRFRKRP1IPFJHNRZFRCOIPXNTJKEWEGVNBXRSZKAMGYKXVCZIR8GFMKYXD3ZYXP1BMT18I1HK3BSPVZVRGQXUEZMRXHLNPLPEQFMQVEXVYIXYKHUNWEEITLIZLQZLWZ
EMLTVXRKIPCTCIEDLNA8SZTZVMSRDIEMELVJ0BQ8XYZOTGZVSYJWJTEKCCMXGSFKWASVHWGXGPHAEIITHGMSXJFEGQKGGKS
Index of coincidence: 0.044805

m=5 String 2
CTRYIWLVIQVILVZGYSWEIMMLIGNZFTXGZXAIEJVMKIXHKLKRSQSFXKIIVUEQKICRACMMGEQVQZKWFHBMVFSMSJIMEQGFVQMCWQJYHTWPLVYPATFLWZJHPSICKJESIMUEDKIIA0EAF8MSWZVIHIIH
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JBALKLAELVMWYI0PEIMEXYVLEBKI5FVZJWQMSICKRVHKKJGIGEJKYLPIMGZILIKDZUGP10CJGHVMUJZMIGWEPBLEHCW
Index of coincidence: 0.047619

m=5 String 3
IVLJXAPFEU3BTVH3ZP2IKMOCQWMEJLOLGHMSKNLSGVKYYPTGLDZUVIGFCJHMSLSFKWIIWJFJRSHEPNSQNEETIORGADVLJALF3JRIYKPKZL1WMDQFZWKZWEOLVRIFMAHMSJIDTXMSETIIRHVRXB
HRIFPOM8EIFOHECIEDYLMWILTVBAKXZKXKSDCL0GIVPZIGYHJITLHIGDKFRGQSVAHFY8ROXRRKXZHUJELKIOKHVRGNJVS
Index of coincidence: 0.046868

m=5 String 4
UQHKERAN2BXK8K8XAIWJJAIEUVDXSVWIZDRKYWGCVLIXVLEZBWPWJMIQROUEHXPVIFJZHVEVJNINEVHJGIFEWMOIZGYVFSZZXHEUTUEDHMLSVNB8REAZZVMASRX8MXQEBQZKXKNEFWWJEJMXEX
UWQWHLGLTYRCHN8JXK8WDESEBVPYCTCIGFYKXAXOFNQEQVQJLEESINYYPTVCDRSJUROGKJLWAXCMR1P3SMPXKZWNMYLV
Index of coincidence: 0.046854

m=5 String 5
TQAJVEEGXV8BCIZVNBIRS3WITIREV8MLKRXAJ3GSGV8RZJ3MLLZVRSUZHTXGQF8MBTXYVUPBJI8RXPYCLJ3PCVQFZTNX0G3V0HMSPFRAQVEIZKQGSXUFMLRXGUYTHMMWYKXKIYLKJKSZLSLC
LH1PMRUVIFXN8JMXFL3DBXIZFEQ8BWEWEDPIKLVRBRWMLZDZX0X0XMIEXDZYVEILNAXAEJ3RXSSXEXUTSAXLZTXSV5IIR
Index of coincidence: 0.048093

m=6 String 1
XTLXJRVF8GQVYNXHZETRIGUJIT0LIFAKYJXXKIRW8RBLFIJSMUMEXCCWTFXJEB3WPVBFEJJI0G6F5VAZGRJIESZLLWQFZEGFPEAMXEFMYDSWEMWYBMW8EZZIBWHTKOGUKEICJEDD3JSCIBFWEA
CMMVSYISD8LRZVZSIIEXELGVXIXOLYDFOEXORXSIVUTSST0XQQLNYI
Index of coincidence: 0.044839

m=6 String 2
CVHAFUPXZILIKITWPMWIKICETFXIMHMSKJPMVLAELIZWBSIVRAVHMYRKIBGEFVPDKKERIVEFLIJ3Q2BGF3J0ZXRUMPEZSGLTFRQHMFEJIBUESIQWQXKEIISIWZ8XKLLPLVILFNHXIIXLGEMSZVLKY
IIFXFIWIXBYRPQDQVJEGLYIDYDQZGCKYRAGIKWSEHMTPIPT8GBWIS
Index of coincidence: 0.050854

m=6 String 3
IQ3WANDQV8DCT9ZIBFLMEIPF3SRZJHRAIVSVKXKPEQNDLWKKJ1J0TXIFVHROUVXKZENPQWQIYB3RIVJ3GLXVMJTHUWPLAHADKEJZVUVKRGXUMENATKTMVKLHRECMAFWRVRIRIHYCMKAMWEIZL8GM
ISZGP3QCARXKEVZ2JHLTXHKNMGRVEIWHUXYPOAXAZIEIDMXKSZEPRNSX
Index of coincidence: 0.042888

m=6 String 4
UQEIAXEIJRBSYANRKMKIMZEXVRZWDXQJGCGJHTLJVSZVPIZCRHKKLPFIMHYYHYHIXLSBQCS10GCKQVFNZCJHQGTMRKMPMBZLZXGZKGVXYMHUWIDVXLSTMJGWLKLEIHMKGEYXTVEJFNLOXTFVPBD
IKIDLMDEYSCINUGRYJXJLIECMFYVYKIAJAWGRLOHGRUGZLMLFEVWQWS
Index of coincidence: 0.041604

m=6 String 5
IYVCREQUGBFQ3JYXMQAJINDQENVZRCILGSTXVVEGRDWSXZFIZYDSXGZMIZYXDSXNYHNJPTMIPHEXDTWPEVXKHFRVWNPWZVMLLWRIIAQTHIIXMIAEEKZVMSWJ3ROPVASTFCVHNMLEYBZYIVGRX
ZGWSZSLQIGNWTKGQXJH8ICIKTVFLVMSKSRPJXMXTXUEJXW8ZSHGYH
Index of coincidence: 0.044819

m=6 String 6
HREJVLPEXXZHBZSIIJ3SPQWVRHGLWKR8M8WNIYXZKELIXQMGJESHGZAIJXWVRJEZFXW8TXKIMAYZHOXJ3GYDPMVIVENLWASVS0SLWSM0XKJZYEFSFLZLRJLUWHVJ3LMLIPMORXDPEMDXKLEVBX
TWEXXK8MFQW8H1QWYIEMKPDZSL8RTSYG3KCRCEHMSIAJGKKXKEDLR
Index of coincidence: 0.045341

m=7 String 1
XVJIRPFXRVFRHWRQSIPEEGIHHIXWVXHWQWQSPQSVQSGCIRVYVEDEIHHBEYSIMGGFLOXTQPLSHMLEQZXSIXIQMXSWAISYSVQVLIXMIPLOIXVREIXWIZLPRXWGLSKSXXIWHVHKEEIX
MTSXIIJHYEIAHKEVPXLXGGRVHL
Index of coincidence: 0.071268

m=7 String 2
COECVZ30Z8ZNTJMRZCJZDHOMZDQJ3MVJZVRNZQJAJHDCOM8ZPJZIVZBVIIXIZ3YTOZZ30H0Z2APN0Z30MZK3YAHQDQNMFMNIJ3VZXC8030VYQVC0J1MNVGCSZVGBICIZDNRDRCNOZ0J3JIXYNC
KZICWAZQ00D3CHDZ3JOTPMWGI
Index of coincidence: 0.071268

m=7 String 3
IQV8APQIXXVISAIRIEIWRWZWR9EYPSGXWIQSWXIRIYXSRVIXXXVHXFVIQCMWIGVQHA0WXYSPLXWFEFREXVS8ERXIXYSMIXEMWZ3ZHEERLKGDFMCXCFMSMIFVSAISIKWIAS0WQZYXGELHEI
PXGEISSFAPLPS8HGEATPEVSEYS
Index of coincidence: 0.068156

m=7 String 4
UVJ3JUNFUYKTVITKMMNVJIRZ2R3VCTYRLEVOLFICKEZEEYFJFQYUNZPRWGTJJIKDZVZVJYEEPRYGFKZVEFKRMYEUIYEETTKEZRLJVTPRETPINJ3LEJEETIYEKEZVYCVIFZPZRGYIGKICD
ZVZKVTORVRXCEZU8SIZZEKNIC
Index of coincidence: 0.061398

m=7 String 5
IRXFAEQGICYSZLITWIS8GKAKIGSIEPJ3RVRXVIIGWIPZTIEVYSEWEPSPSEIRCEYSJXCEI8MWRIYTXLWSPMVRSIMWIZEXKSSELHSHXWHLWKSIEHEMPHGWXYEWMKICESIOEQORREGGWIETLIPY
GRVLRYXGKXSRITISISPHLWKS
Index of coincidence: 0.068343

m=7 String 6
HLWAG8LDSZEFW3GUF3VWFSAJONKAKL8LLSZWFUUJLGAFGUD3JKB3WEL3GHAFSFZ3JUUFVWL0ZNAFWUCWFUUJHJWOKLELWMLWSWMLFMAKFHVNDLMOZFL6DZWFJDLMOYVUKG3JXJSGOD
GYFSLKWSJQWAKXMTMLWKQGSWY
Index of coincidence: 0.062259

m=7 String 7
THXVELIB8GBHPBMAPGTFXNLLXROLXLEKTBUBVXMMHKKXZBQGHX8K8NXXFFBQPMGBLN0XRRH8THMLGABPWHGVLLEBXHTBWTAFABIKIMUBLAHVMULRTHXOAXLBXBVBXTPMXBLBKNTIZGLMHMLYM
FVLOAHU8XK8M8TWKXKX8BNGV
Index of coincidence: 0.067988

m=8 String 1
XOYJAQ8VBVTK8BQRENTJNIZRKIGXWVERLUSJIZMXXCMIFVDBEYVMP8B8IYDSSMGJEWFLHNFQWFI8MRTMUTSNXKEBVBZVRWAPORTHEHMEJWZBLGAICVPSDAIRVTVJXITSLXKXVLHHPRRAMVEDSSW
XRGYQ
Index of coincidence: 0.043618
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m=8 String 2
CQJFALXJXKYZPRJIMWFQGMWRKJGVJXLJLBPQRQCGUKIJEVRDIFRSWFSXGKYFNLZHYMKMSPEFLAHXOERSUHXQIYXLFJSJZXWLJLJEIFTRIFEGOXZVSYIWLXNWVOYNHDYIEJMICPZVSAJZARXWGEHGSILK
QWEIS
Index of coincidence: 0.043618
m=8 String 3
IYXWFOXYCJHIMRMIFUEOZZAALXVXRPGQBQZIKIUTSCVMTUXEZXPJFYIIIEFLPZWUIHLAWGXWZMAKRFQXDMIEKAYIZEHSBMOKRSKRVJCLHMBIZVEMZMGZICQKQWZZQIXHENIVRFQINFVOKXKIIUSKXX
PSNXY
Index of coincidence: 0.046521
m=8 String 4
URAXPZIVISBWNKIGTEHWZKSOWMGYELKWZIIUHXHRIQHVPHZEBXEIWJACABFOJGUTPZXVTZWQZSFVWBMHSUZOXSIZWSUXBIPXLLXOXJPLLXSFVKDTFDXVEMBIOQRWJMEYEDGYLIASRGJXHCUIMMGT
VKWNR
Index of coincidence: 0.042167
m=8 String 5
ILVRVGUGDQXZITLJGPDTRGFRIJSTIKEGNWFXMQDFZFQYJXNWXNBIMJRHGGTAVEJHXZLYVDPZJEVVEGAYEIWTINMKHLMICRTWAUICCYMDAWCIIWGXWZVOLLXNVZGSLXHCYGVXWSDXSXAJSZTTMXOE
ZLSV
Index of coincidence: 0.043933
m=8 String 6
HHIVFPXLBHTAIKPEZRIRWXXNPCIATEZSLVZMVHSPABWVMVYEKKHVCTIGMGVHZCJRQDPRILOXVMCLIXXEWJWVFITLWLXEVLMMIYMNEDXIDMTLXBIIIZIDBXCWPGQXILIPDFSCITYW6IDRERMTLJPE
XGGL
Index of coincidence: 0.049567
m=8 String 7
TJCRNQGBFNSYZFAIIWJSLVHCYKVKQRDRWXSJYEIGWRZXUSJNHBQTEJPGJXVFRTHSPRWAIZEZPULXXIYMHBAAMTEWKVZEJHFVGVFIINOXYSEYFBRCSSESJXSRGZEKZHEKIGMTIEVYUUEOPXIXUJZTJH
QNHI
Index of coincidence: 0.041238
m=8 String 8
VEEUEIRZISWMSICVXLHDEJGNLHIZIVSGAREWLZIMFYJKIZIGSLOIZQZJZXOYEMVMNRZSWGSJXMIUKWDEESLIGJHLHLVGPVHXINMEXLPBIKEFMKISFRUIVJGGLKYMZGKRKAYGLCSKHPZAIFK
BVJS
Index of coincidence: 0.049404

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Enter correct length of keyword to continue : 7

Table:	Vg1	Vg2	Vg3	Vg4	Vg5	Vg6	Vg7
0	0.0407	0.0331	0.0453	0.0409	0.0476	0.0312	0.0350
1	0.0355	0.0377	0.0354	0.0386	0.0351	0.0396	0.0386
2	0.0369	0.0354	0.0314	0.0428	0.0324	0.0400	0.0323
3	0.0425	0.0313	0.0370	0.0333	0.0379	0.0477	0.0392
4	0.0662	0.0338	0.0666	0.0440	0.0672	0.0362	0.0432
5	0.0375	0.0432	0.0393	0.0396	0.0391	0.0442	0.0362
6	0.0334	0.0444	0.0322	0.0464	0.0352	0.0309	0.0402
7	0.0327	0.0378	0.0296	0.0366	0.0301	0.0460	0.0411
8	0.0400	0.0423	0.0410	0.0363	0.0407	0.0355	0.0471
9	0.0298	0.0423	0.0318	0.0294	0.0286	0.0367	0.0407
10	0.0350	0.0408	0.0371	0.0351	0.0380	0.0319	0.0364
11	0.0362	0.0380	0.0381	0.0421	0.0394	0.0352	0.0298
12	0.0331	0.0333	0.0368	0.0365	0.0318	0.0358	0.0352
13	0.0361	0.0308	0.0376	0.0425	0.0349	0.0335	0.0404
14	0.0397	0.0373	0.0405	0.0303	0.0410	0.0402	0.0354
15	0.0493	0.0361	0.0468	0.0350	0.0483	0.0319	0.0412
16	0.0405	0.0365	0.0389	0.0412	0.0391	0.0384	0.0337
17	0.0415	0.0441	0.0424	0.0628	0.0429	0.0415	0.0304
18	0.0383	0.0344	0.0384	0.0356	0.0384	0.0637	0.0350
19	0.0491	0.0284	0.0440	0.0319	0.0425	0.0383	0.0656
20	0.0379	0.0402	0.0376	0.0352	0.0381	0.0350	0.0427
21	0.0339	0.0683	0.0334	0.0465	0.0338	0.0314	0.0314
22	0.0305	0.0417	0.0342	0.0342	0.0339	0.0425	0.0289
23	0.0406	0.0311	0.0388	0.0337	0.0363	0.0345	0.0509
24	0.0306	0.0337	0.0341	0.0370	0.0353	0.0365	0.0350
25	0.0336	0.0451	0.0328	0.0339	0.0335	0.0347	0.0355

Keyword:
EVEREST

The plain text is: thedepartmentofjusticehasbeenandwillalwaysbecommittedtoprotectingthelibertyandsecurityofthosewhomeserveinrecentmonthshoweverwehaveona newscaleseenmainstreamproductsandservicesdesignedinawaythatgivesuserssolecontroloveraccesstotheirdataasaresultlawenforcementissometimesunabletorecoverthe contentofelectroniccommunicationsfromthetechnologyprovidereneveninresponsetoacourtorderordulyauthorizedwarrantissuedbyafederaljudgeforexamplemanycommunicat ionservicesnowencryptcertaincommunicationsbydefaultwiththekeynecessarytodecryptthecomcommunicationssolelyinthehandsoftheenduserthisappliesbothwhenthe datais inmotionoverelectronicnetworksoratrestonanelectronicdeviceifthecomcommunicationsprovideris servedwithawarrantseekingthosecommunications theprovider cannotprovi dedthedatabecauseithasdesignedthetechnologysuchthatitcannotbeaccessedbyanythirdpartywedonothaveanysilverbulletsthe discussionswith the executive (base) a nish@Anishs-MacBook-Pro Project % (base) anish@Anishs-MacBook-Pro Project % (base) anish@Anishs-MacBook-(base) anish@Anishs-M(base) anish@A(base) (base)