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main.c
21     }
22 }
23 plaintext[strlen(ciphertext)] = '\0';
24 }
25
26 void generatePlaintexts(const char *ciphertext, int topN) {
27     int frequency[ALPHABET_SIZE] = {0};
28     frequencyAnalysis(ciphertext, frequency);
29
30     // Assuming the most frequent letter in English is 'e'
31     int mostFrequentIndex = 4; // 'e' is the 5th letter (index 4)
32     for (int key = 0; key < ALPHABET_SIZE; key++) {
33         char plaintext[100];
34         decryptWithKey(ciphertext, (mostFrequentIndex - key + ALPHABET_SIZE) %
35             ALPHABET_SIZE, plaintext);
36         printf("Possible plaintext with key %d: %s\n", key, plaintext);
37     }
38
39 int main() {
40     const char *ciphertext = "yourciphertexthere";
41     int topN = MAX_PLAINTEXTS; // User can specify this
42     generatePlaintexts(ciphertext, topN);
43     return 0;
44 }
45
```

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Output
Possible plaintext with key 0: ukqnyeldanpatpdana
Possible plaintext with key 1: vlrozfmeboqbuqebob
Possible plaintext with key 2: wmspagnfcprcvrfpc
Possible plaintext with key 3: xntqbhogdqsdsdsgdqd
Possible plaintext with key 4: yourciphertexthere
Possible plaintext with key 5: zpvsdjqifsufyuifsf
Possible plaintext with key 6: aqwtckrjgtvgzvjgtg
Possible plaintext with key 7: brxufiskhuwhawkhuh
Possible plaintext with key 8: csyvgmtlivxibxlivi
Possible plaintext with key 9: dtzwhnumjwyjcmjwj
Possible plaintext with key 10: euaxiovnkxzkdznkxk
Possible plaintext with key 11: fvbypjpwolyaleaoly
Possible plaintext with key 12: gwczkqxpmbfmbpmzm
Possible plaintext with key 13: hxdalryqnacngcnan
Possible plaintext with key 14: iyebmzrobdohdrobo
Possible plaintext with key 15: jzfcntaspcpiespcp
Possible plaintext with key 16: kagdoubtqdfqjftqdq
Possible plaintext with key 17: lbhepv curegrkgurer
Possible plaintext with key 18: mcifqwdvsfshslhvsfs
Possible plaintext with key 19: ndjgrxewtgitmiwtgt
Possible plaintext with key 20: oekhsyfxuhjunjxuhu
Possible plaintext with key 21: pflitzgyvikvokyviv
Possible plaintext with key 22: qgmjuahzwjlpplzjw
Possible plaintext with key 23: rhnkvbiakmxqmaxkx
Possible plaintext with key 24: siolwcjbylnyrnbyly
Possible plaintext with key 25: tjpmxkdczmozsoczmz
```

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