Shri Vile Parle Kelavani Mandal's



INSTITUTE OF TECHNOLOGY

DHULE (M.S.)

DEPARMENT OF COMPUTER ENGINEERING

Subject: Competitive Programming Lab (BTCOL606)

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Class: T.Y Comp Batch: T2 Division: T

Expt. No. :05 Date : 24/03/2025

Title: Problem 5:

Signature

Remark

Code:

```
// MOHAMMAD_ANAS_31_TY_COMP
```

```
#include <iostream>
#include <vector>
#include <unordered map>
#include <sstream>
using namespace std;
int main() {
  int n;
  cout << "Enter the number of dictionary words: ";</pre>
  cin >> n:
  vector<string> dictionary(n);
  cout << "Enter the dictionary words: \n";
  for (int i = 0; i < n; ++i) cin >> dictionary[i];
  cin.ignore();
  string line;
  cout << "Enter encrypted lines (Ctrl+D to stop):\n";</pre>
  while (getline(cin, line)) {
     stringstream ss(line);
     string word, decrypted;
     vector<string> words;
```

```
while (ss >> word) words.push back(word);
unordered map<char, char> mapping;
unordered map<char, char> reverseMapping;
vector<string> result(words.size(), "");
for (size t i = 0; i < words.size(); ++i) {
  for (const string& dictWord : dictionary) {
     if (words[i].size() != dictWord.size()) continue;
     mapping.clear();
     reverseMapping.clear();
     bool valid = true;
     for (size t j = 0; j < words[i].size(); ++j) {
       char enc = words[i][j], org = dictWord[j];
       if (mapping.count(enc) && mapping[enc] != org) {
          valid = false;
          break;
       if (reverseMapping.count(org) && reverseMapping[org] != enc) {
          valid = false;
          break;
       mapping[enc] = org;
       reverseMapping[org] = enc;
     if (valid) {
       result[i] = dictWord;
       break;
for (size t i = 0; i < result.size(); ++i) {
  if (result[i].empty()) result[i] = string(words[i].size(), '*');
  if (i > 0) decrypted += " ";
  decrypted += result[i];
```

```
}
cout << "Decrypted text: " << decrypted << endl;
}
return 0;
}Output:</pre>
```

```
<global>
                                                                                                          ~ | c| 0 | b
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₩ № /** *< | ● ② | ९ | ◘
                                             ~ | ← → <u>/</u> ⊕ Aa .*
Start here X cryp.cpp X
                                                                                                                                                                                                    - 🗆 ×
              #include <iostream>
                                                                                                   "D:\Sem 6\CPL\cryp.exe"
              #include <vector>
                                                                                             Enter the number of dictionary words: 6 Enter the dictionary words:
              #include <unordered_map>
       3
              #include <sstream>
                                                                                             and
dick
       5
              using namespace std;
                                                                                             jane
puff
       6
                                                                                              spot
                                                                                             spot
yertle
Enter encrypted lines (Ctrl+D to stop):
bjvg xsb hxsn xsb qymm xsb rqat xsb pnetfn
Decrypted text: dick and dick and puff and dick and yertle
xxxx yyy zzzz www yyyy aaa bbbb ccc ddddd
Decrypted text: **** *** **** **** **** **** ****
erdt fg dff fg
Decrypted text: dick ** *** **
dff drf df errt dftg ssse east
Decrypted text: *** and ** **** dick **** dick
       8
       9
                 cout << "Enter the number of dictionary words: ";</pre>
      10
                 cin >> n:
      11
                 vector<string> dictionary(n);
      12
                 cout << "Enter the dictionary words: \n";</pre>
      13
                 for (int i = 0; i < n; ++i) cin >> dictionary[i];
      14
      15
                 cin.ignore(); // Ignore newline
      16
                 string line;
      17
                 cout << "Enter encrypted lines (Ctrl+D to stop):\n";
      18
                 while (getline(cin, line)) {
      19
                    stringstream ss(line);
      20
                    string word, decrypted;
      21
                    vector<string> words;
      22
      23
                    while (ss >> word) words.push_back(word);
      24
                    unordered manachar char's manning
```