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INSTITUTE OF TECHNOLOGY
DHULE (M.S.)
DEPARTMENT OF COMPUTER ENGINEERING

Subject : Competitive Programming Lab

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Roll No. : 32

Class : TY. Comp. Engg.

Batch : T2

Division: T

Expt. No. :05

Date : 24/03/2025

Title : Krypt Kicker

Remark

Signature

Language: C++

```
//Krypt Kicker by Meraj 32 T2
#include <stdio.h>
#include <string.h>
#include <iostream>
#include <sstream>
#include <set>
using namespace std;
string word[1005];
set<string> W;
string buf[1005];
int n, m;
bool hasSol;
char mapped[128], mapped2[128];
char trans[128];
void dfs(int idx) { //decode buf[idx]
    if(hasSol) return;
    int i, j, err;
    int exist = 1;
    if(idx == m) {
        for(i = 0; i < m; i++) {
            if(i) putchar(' ');
            for(j = 0; j < buf[i].length(); j++)
                putchar(mapped[buf[i][j]]);
        }
    }
}
```

```

    }
    puts("");
    hasSol = 1;
    return;
}
for(i = 0; i < buf[idx].length(); i++) {
    if(mapped[buf[idx][i]] == 0)
        exist = 0;
    else {
        trans[i] = mapped[buf[idx][i]];
    }
}
trans[i] = '\0';
if(exist == 1) {
    if(W.find(trans) == W.end())
        return;
    dfs(idx+1);
} else { //try new mapped function
    char ori[128], ori2[128];
    for(i = 0; i < n; i++) {
        if(buf[idx].length() != word[i].length())
            continue;
        memcpy(ori, mapped, sizeof(ori)); //copy
        memcpy(ori2, mapped2, sizeof(ori2)); //copy
        err = 0;
        for(j = 0; j < word[i].length(); j++) {
            if(mapped[buf[idx][j]] == 0) {
                if(mapped2[word[i][j]])
                    err = 1;
                mapped[buf[idx][j]] = word[i][j];
                mapped2[word[i][j]] = buf[idx][j];
                // new function
            } else {
                if(mapped[buf[idx][j]] != word[i][j]) {
                    err = 1;
                    break;
                }
            }
        }
    }
    if(err == 0)
        dfs(idx+1);
    memcpy(mapped, ori, sizeof(ori)); //recover
    memcpy(mapped2, ori2, sizeof(ori2)); //recover
}

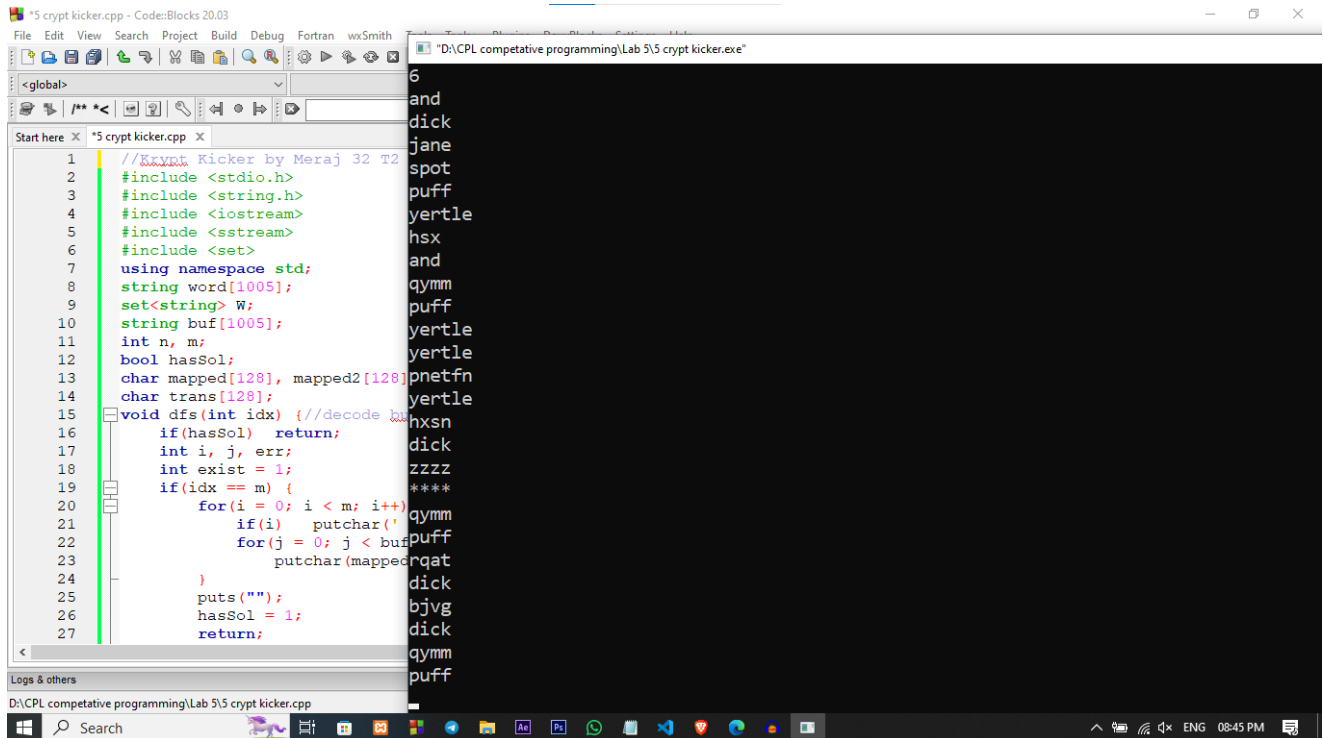
```

```

        if(hasSol)
            return;
    }
}
}
int main() {
    scanf("%d", &n);
    int i, j;
    string line;
    char s[128];
    for(i = 0; i < n; i++) {
        scanf("%s", s);
        word[i] = s;
        W.insert(s);
    }
    while(getchar() != '\n');
    while(getline(cin, line)) {
        stringstream sin(line);
        m = 0;
        while(sin >> line)
            buf[m++] = line;
        memset(mapped, 0, sizeof(mapped));
        memset(mapped2, 0, sizeof(mapped2));
        hasSol = false;
        dfs(0);
        if(!hasSol) {
            for(i = 0; i < m; i++) {
                if(i) putchar(' ');
                for(j = buf[i].length()-1; j >= 0; j--)
                    putchar('*');
            }
            puts("");
        }
    }
    return 0;
}

```

Output :



The screenshot shows a C++ IDE with two windows. The left window, titled "5 crypt kicker.cpp - Code::Blocks 20.03", contains the following code:

```
1 //Kicker Kicker by Meraj 32 T2
2 #include <stdio.h>
3 #include <string.h>
4 #include <iostream>
5 #include <sstream>
6 #include <set>
7 using namespace std;
8 string word[1005];
9 set<string> W;
10 string buf[1005];
11 int n, m;
12 bool hasSol;
13 char mapped[128], mapped2[128];
14 char trans[128];
15 void dfs(int idx) { //decode
16     if(hasSol) return;
17     int i, j, err;
18     int exist = 1;
19     if(idx == m) {
20         for(i = 0; i < m; i++)
21             if(i) putchar(' ');
22         for(j = 0; j < buf[0]; j++)
23             putchar(mapped[j]);
24     }
25     puts("");
26     hasSol = 1;
27     return;
28 }
```

The right window, titled "D:\CPL competitive programming\Lab 5\5 crypt kicker.exe", shows the output of the program:

```
6
and
dick
jane
spot
puff
yertle
hsx
and
qymm
puff
yertle
yertle
pnetfn
yertle
hxsn
dick
zzzz
****
qymm
puff
rqat
dick
bjvg
dick
qymm
puff
```

The Windows taskbar at the bottom shows the time as 08:45 PM and the language as ENG.