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#include <stdio.h>
#include <string.h>
#include <ctype.h>

char key[5][5] = {
    {'M','O','N','A','R'},
    {'C','H','Y','B','D'},
    {'E','F','G','I','K'},
    {'L','P','Q','S','T'},
    {'U','V','W','X','Z'}
};

void find(char c, int *r, int *c1){
    for(int i=0;i<5;i++)
        for(int j=0;j<5;j++)
            if(key[i][j]==c){ *r=i; *c1=j; }
}

int main(){
    char text[50];
    int i,r1,c1,r2,c2;

    printf("Enter plaintext: ");
    fgets(text,sizeof(text),stdin);

    for(i=0;text[i+1]!='\0';i+=2){
```

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or(i=0;text[i+1]!='\0';i+=2){  
    char a=toupper(text[i]), b=toupper(text[i+1]);  
    if(a=='J') a='I'; if(b=='J') b='I';  
  
    find(a,&r1,&c1); find(b,&r2,&c2);  
  
    if(r1==r2)  
        printf("%c%c",key[r1][(c1+1)%5],key[r2][(c2+1)%5]);  
    else if(c1==c2)  
        printf("%c%c",key[(r1+1)%5][c1],key[(r2+1)%5][c2]);  
    else  
        printf("%c%c",key[r1][c2],key[r2][c1]);  
}  
return 0;
```

```
Enter plaintext: HELLO
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CFPPMP
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==== Code Execution Successful ===
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