Program to Implement playfair cipher.

```
#Include <Stdio.h>
# Include <stdlib.h>
# Include < String.h>
# define SIZE 30
 Void toLowerCase(char plain[], Int ps)
 {   Int i;
     for (i=0;i< ps ;i++)
     { If (plain [i] >64 && plain [i] <91)
           plain [i] += 32;
  } }
  Int removeSpace (Char * plain, Int ps)
  { Int i, count = 0;
     for (i=0; i< ps ; i++)
         If ( plain[i] != ' ')
          Plain [count++] = plain[i];
     Plain [count] = '\0';
     return count ;
  }
  void generatedKeyTable(char key[], Int ks, char keyT [5][5])
 { Int i,j, k, flag = 0; * dicty;
   dicty = (Int *) calloc (26, sizeof (Int));
   for (i=0; i< ks ; i++)
  { If (key [i] != 'j')
          dicty [key [i] - 97] = 2;
  } dicty ['j - 97] = 1 ;
     i= 0;
     J = 0;
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for (k=0; k<ks; k++){
  IF (dicty[key[k]-97]==2 {
     dicty[key[k]-97]-=1;
    keyT[i][j] = key[k];
    j++
    if (J==5) {
      i++
      J=0;
    } } }
  for (k=0; k<26; k++){
    if (dicty[k]==0) {
       keyT[i][j] = (char)(k+97);
       J++;
       IF (J==5) {
          i++
          J=0
    }
       } } }
void search (char keyT[5][5], char a, char b, int arr[])
{ int i,j;
  if (a=='j')
        a='i';
  else IF (b=='j')
        b='i';
  For (i=0; i<5; i++) {
     for (J=0; j<5; j++) {
        IF (keyT[i][j]==a) {
              arr[0]=i;
              arr[1]=j;
        } else if (keyT[i][j]==b)
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arr[2] = i;
arr[3] = j;
}
}
}
}
int mode5(int a)
{
return (a % 5);
}
int prepare(char str[], int ptrs)
{
if (ptrs % 2 != 0){
str[ptrs++] = 'z';
str[ptrs] = '\0';
} return ptrs;
}
void encryption(char str[], char keyT[5][5], int ps)
{ int i, a[4];
for (i=0; i<ps; i+=2){
search(keyT, str[i], str[i+1], a);
if (a[0] == a[2]){
str[i] = keyT[a[0]][mod5
str[i+1] = keyT[a[0]][mod5(a[3]+1)];
} else if (a[1] == a[3]){
str[i] = keyT[mod5(a[0]+1)][a[1]];
str[i+1] = keyT[mod5(a[2]+1)][a[1]];
}
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else {  str[i] = keyT[a[0]][a[3]];
        str[i+1] = keyT[a[2]][a[1]];
    } } }
void encryptByPlayfairCipher(char str[], char key[])
{   char ps, ks, keyT[5][5];
 ks = strlen(key);
      ks = removeSpaces(key, ks);
      toLowerCase(key, ks);
 ps = strlen(str);
      toLowerCase(str, ps);
      ps = removeSpaces(str, ps);
 ps = prepare(str, ps);
 GenerateKeyTable(key, ks, keyT);
 encrypt(str, keyT, ps);
} int main()
{  char str[SIZE], key[SIZE];
   strcpy(key, "playfair");
   printf("Key text : %s\n", key);
   strcpy(str, "Message");
   printf("Plain text : %s\n", str);
   encryptByPlayfairCipher(str, key);
   printf("Cipher text : %s\n", str);
}  return 0;
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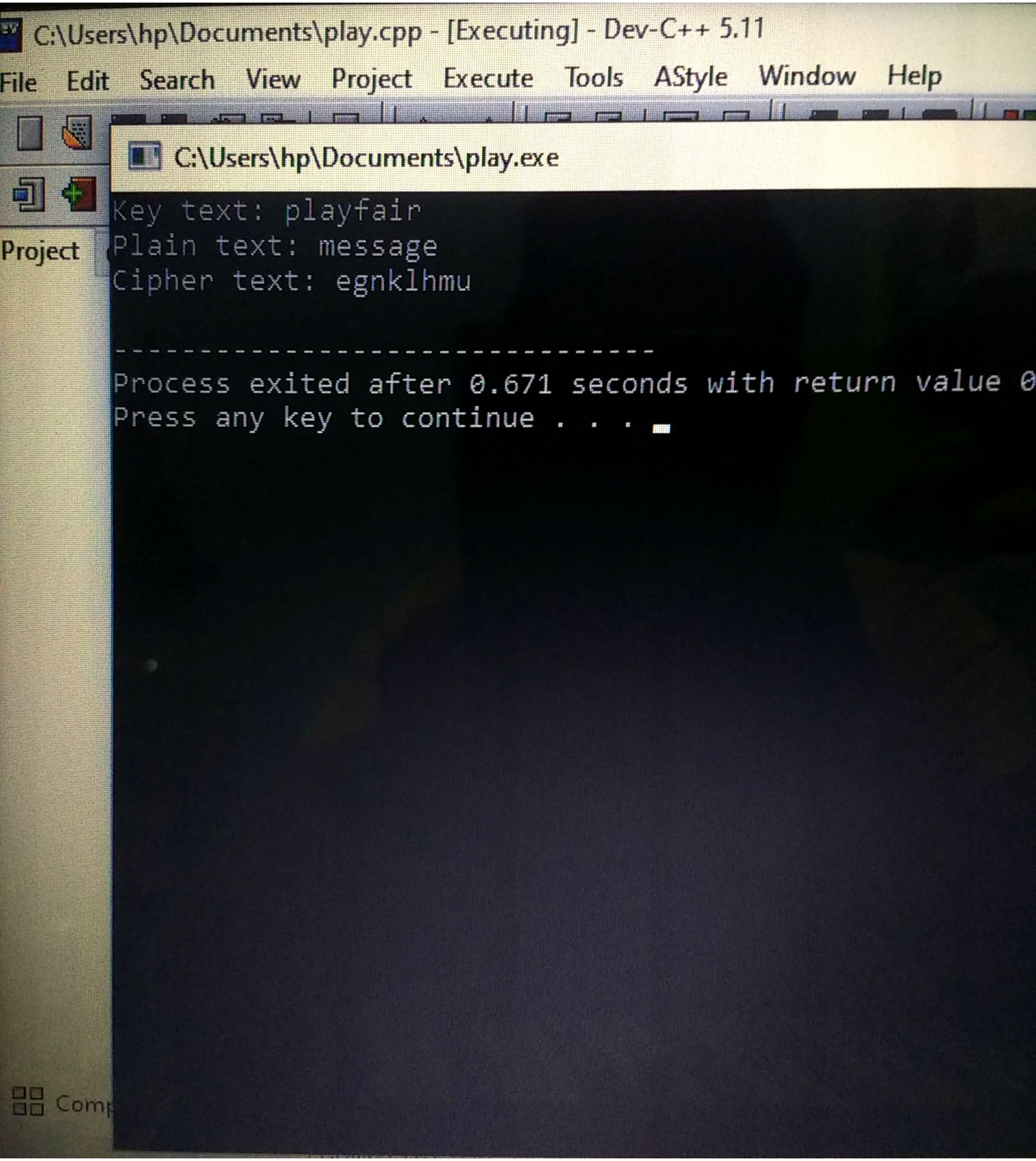
C:\Users\hp\Documents\play.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
Project
C:\Users\hp\Documents\play.exe
Key text: playfair
Plain text: message
Cipher text: egnklhmu

Process exited after 0.671 seconds with return value 0
Press any key to continue . . .