문제해결기법(13967005)

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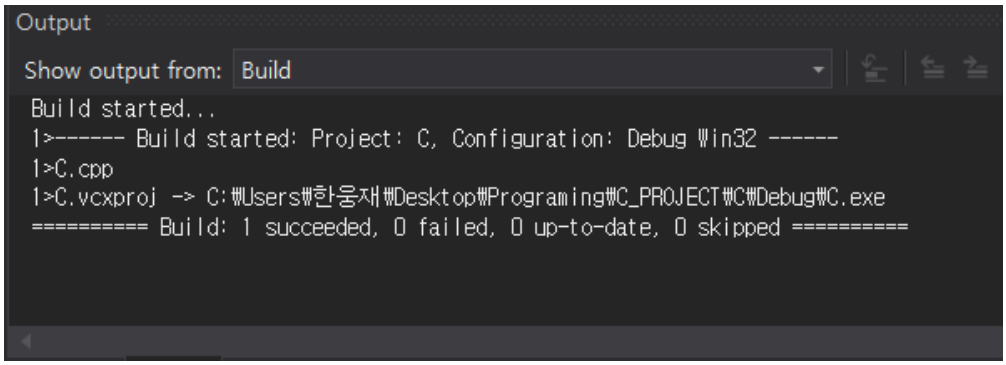
Q1. Lab1 (p. 16)

```
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>
#include <stdbool.h>
struct ADDRESS {
	char first[10];
	char middle;
	char second[10];
};
struct ADDRESS address[1000];
struct ADDRESS compressed_address[1000];
void copy_element(struct ADDRESS src[], struct ADDRESS dest[]) {
	strcpy(dest->first, src->first);
	dest->middle = src->middle;
	strcpy(dest->second, src->second);
}
bool read_file(const char *fname,int *count,struct ADDRESS data[]) {
	FILE* pFile;
	pFile = fopen(fname, "r");
	if (pFile == NULL) {
		printf("cannot open the file!\n");
		return false;
		(*count) = 0;
	}
	struct ADDRESS ex;
	int i = 0;
	while (fscanf(pFile,"%s %c %s",ex.first,&ex.middle,ex.second)==3) {
		copy_element(&ex, &data[i]);
		i++;
		(*count)++;
	}
	fclose(pFile);
	return true;
}
bool read_compressed_file(const char* fname, int* count, struct ADDRESS data[]) {
	FILE* pFile;
	pFile = fopen(fname, "r");
	if (pFile == NULL) {
		printf("cannot open the file!\n");
		return false;
		(*count) = 0;
	}
	struct ADDRESS ex;
	int i = 0;
	while (fscanf(pFile, "%3s%4s", ex.first,ex.second) == 2) {
		copy_element(&ex, &data[i]);
		i++;
		(*count)++;
	}
	fclose(pFile);
	return true;
}
bool write_file(const char* fname, int* count) {
	FILE* pFile;
	pFile = fopen(fname, "w");
```

```
        if (pFile == NULL) {
                printf("cannot open the file!\n");
                return false;
        }

        for (int i = 0; i < *count; i++) {
                fprintf(pFile, "%s%s", address[i].first, address[i].second);
        }

        fclose(pFile);
        return true;
}
bool write_compressed_file(const char* fname, int* count) {
        FILE* pFile;
        pFile = fopen(fname, "w");
        if (pFile == NULL) {
                printf("cannot open the file!\n");
                return false;
        }

        for (int i = 0; i < *count; i++) {
                fprintf(pFile, "%s - %s   ", compressed_address[i].first,
compressed_address[i].second);
        }

        fclose(pFile);
        return true;
}
int main() {
        char fname[30] = "address.txt";
        char f2name[30] = "compressed.txt";
        char f3name[30] = "decompressed.txt";
        int count = 0;
        int count_b = 0;
        read_file(fname,&count,address);
        write_file(f2name,&count);

        read_compressed_file(f2name,&count_b,compressed_address);
        write_compressed_file(f3name, &count_b);
        return 0;
}
```



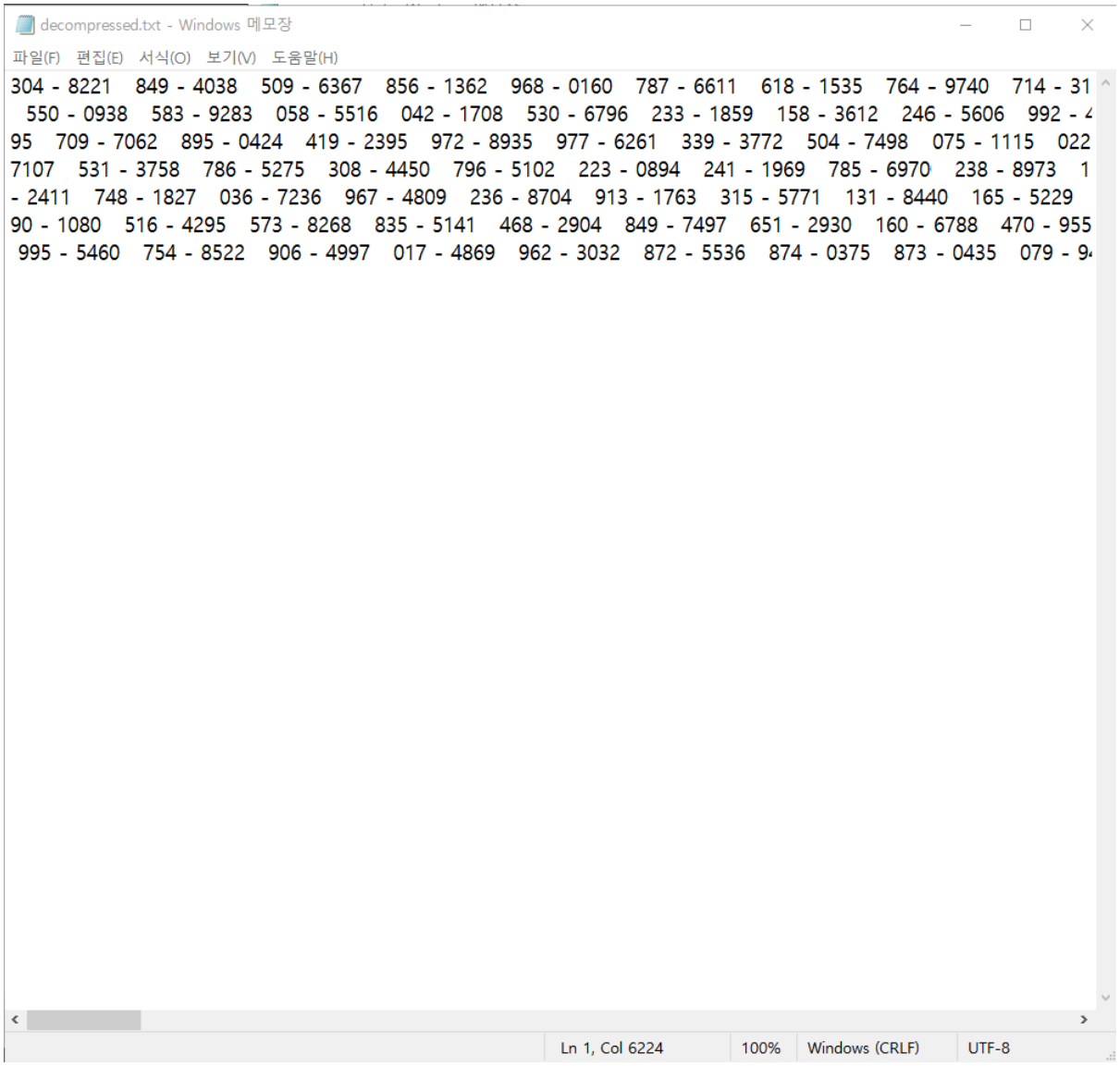

address.txt 속성
일반
보안
자세히
이전 버전
address.txt
파일 형식:
텍스트 문서(.txt)
연결 프로그램:
메모장
변경(C)...
위치:
C:₩Users₩한웅재₩Desktop₩Programing₩C
크기:
6.34KB (6,500 바이트)
디스크 할당 크기:
8.00KB (8,192 바이트)
만든 날짜:
2021년 11월 12일 금요일, 오후 2:34:01
수정한 날짜:
2021년 11월 12일 금요일, 오후 2:22:15
액세스한 날짜:
2021년 11월 12일 오늘, 1시간 전
특성:
읽기 전용(R)
숨김(H)
고급(D)...
보안:
이 파일은 다른 컴퓨터로부터 왔으며 사용자의 컴퓨터를 보호하기 위해 차단되었을 수도 있습니다.
차단 해제(K)
확인
취소
적용(A)


compressed.txt 속성
일반
보안
자세히
이전 버전
compressed.txt
파일 형식:
텍스트 문서(.txt)
연결 프로그램:
메모장
변경(C)...
위치:
C:₩Users₩한웅재₩Desktop₩Programing₩C
크기:
3.41KB (3,500 바이트)
디스크 할당 크기:
4.00KB (4,096 바이트)
만든 날짜:
2021년 11월 12일 금요일, 오후 3:30:41
수정한 날짜:
2021년 11월 12일 금요일, 오후 3:43:56
액세스한 날짜:
2021년 11월 12일 오늘, 10분 전
특성:
읽기 전용(R)
숨김(H)
고급(D)...
확인
취소
적용(A)


decompressed.txt 속성
일반
보안
자세히
이전 버전
decompressed.txt
파일 형식:
텍스트 문서(.txt)
연결 프로그램:
메모장
변경(C)...
위치:
C:₩Users₩한웅재₩Desktop₩Programing₩C
크기:
6.34KB (6,500 바이트)
디스크 할당 크기:
8.00KB (8,192 바이트)
만든 날짜:
2021년 11월 12일 금요일, 오후 3:43:56
수정한 날짜:
2021년 11월 12일 금요일, 오후 3:43:56
액세스한 날짜:
2021년 11월 12일 오늘, 2분 전
특성:
읽기 전용(R)
숨김(H)
고급(D)...
확인
취소
적용(A)


address.txt - Windows 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
304 - 8221 849 - 4038 509 - 6367 856 - 1362 968 - 0160 787 - 6611 618 - 1535 764 - 9740 714 - 31
550 - 0938 583 - 9283 058 - 5516 042 - 1708 530 - 6796 233 - 1859 158 - 3612 246 - 5606 992 - 4
95 709 - 7062 895 - 0424 419 - 2395 972 - 8935 977 - 6261 339 - 3772 504 - 7498 075 - 1115 022
7107 531 - 3758 786 - 5275 308 - 4450 796 - 5102 223 - 0894 241 - 1969 785 - 6970 238 - 8973 1
- 2411 748 - 1827 036 - 7236 967 - 4809 236 - 8704 913 - 1763 315 - 5771 131 - 8440 165 - 5229
90 - 1080 516 - 4295 573 - 8268 835 - 5141 468 - 2904 849 - 7497 651 - 2930 160 - 6788 470 - 955
995 - 5460 754 - 8522 906 - 4997 017 - 4869 962 - 3032 872 - 5536 874 - 0375 873 - 0435 079 - 9
Ln 1, Col 6196
100%
Windows (CRLF)
UTF-8


compressed.txt - Windows 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
304822184940385096367856136296801607876611618153576497407143125476192644935657388151904728846183895
859246545091440656002326180475255977405331783140330682429808075058319052483393799570970628950424411
082893073617903691025577852056337891696104280235211447256196675302613022899474794372260743924294366
204363970151208000427375216128100737053715457329410810576394225284777097133340914017412141488561711
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8

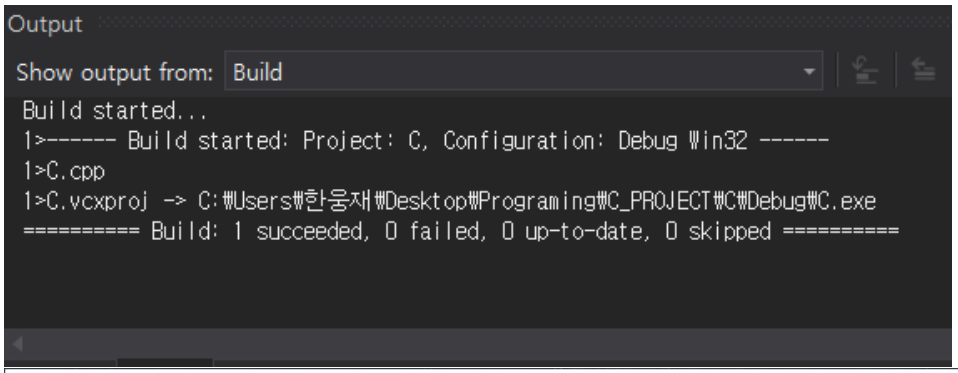

decompressed.txt - Windows 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
304 - 8221 849 - 4038 509 - 6367 856 - 1362 968 - 0160 787 - 6611 618 - 1535 764 - 9740 714 - 31
550 - 0938 583 - 9283 058 - 5516 042 - 1708 530 - 6796 233 - 1859 158 - 3612 246 - 5606 992 - 4
95 709 - 7062 895 - 0424 419 - 2395 972 - 8935 977 - 6261 339 - 3772 504 - 7498 075 - 1115 022
7107 531 - 3758 786 - 5275 308 - 4450 796 - 5102 223 - 0894 241 - 1969 785 - 6970 238 - 8973 1
- 2411 748 - 1827 036 - 7236 967 - 4809 236 - 8704 913 - 1763 315 - 5771 131 - 8440 165 - 5229
90 - 1080 516 - 4295 573 - 8268 835 - 5141 468 - 2904 849 - 7497 651 - 2930 160 - 6788 470 - 955
995 - 5460 754 - 8522 906 - 4997 017 - 4869 962 - 3032 872 - 5536 874 - 0375 873 - 0435 079 - 9
Ln 1, Col 6224
100%
Windows (CRLF)
UTF-8

Q2. Lab2 (p. 24)

```
#define _CRT_SECURE_NO_WARNINGS// or scanf_s
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <ctype.h>
#include <stdbool.h>
#define KEY 3;
void do_cypher(char* str) {
	int i = 0;
	int key = KEY;
	while (str[i] != '\0') {
		str[i];
		if (str[i] >='A' && str[i] <='Z') {
			str[i] = (str[i] - 'A' + key) % 26 + 'A';
		}
		else if (str[i] >='a' && str[i] <='z') {
			str[i] = (str[i] - 'a' + key) % 26 + 'a';
		}
		i++;
	}
}
void do_decrypt(char* str) {
	int i = 0;
	int key = KEY;
	while (str[i] != '\0') {
		str[i];
		int code;
		if (str[i] >= 'A' && str[i] <= 'Z') {
			code = (str[i] - 'A' - key);
			if (code < 0) {
				code += 26;
			}
			str[i] = code % 26 + 'A';
		}
		else if (str[i] >= 'a' && str[i] <= 'z') {
			code = (str[i] - 'a' - key);
			if (code < 0) {
				code += 26;
			}
			str[i] = code % 26 + 'a';
		}
		i++;
	}
}
bool write_file(const char* fname,char data[][200],int *count) {
	FILE* pFile;
	pFile = fopen(fname, "w");
	if (pFile == NULL) {
		printf("cannot open the file!\n");
		return false;
	}
	//write char
	char cypher[100];
	for (int i = 0; i < *count;i++) {
		strcpy(cypher,data[i]);
		do_cypher(cypher);
		fprintf(pFile,"%s",cypher);
```

```
        }

        //
        fclose(pFile);
        return true;
}
bool write_decrypted_file(const char* fname, char data[][200], int* count) {
        FILE* pFile;
        pFile = fopen(fname, "w");
        if (pFile == NULL) {
                printf("cannot open the file!\n");
                return false;
        }
        //write char
        char decrypted[100];
        for (int i = 0; i < *count; i++) {
                strcpy(decrypted, data[i]);
                do_decrypt(decrypted);
                fprintf(pFile, "%s", decrypted);

        }

        //
        fclose(pFile);
        return true;
}

bool read_file(const char* fname, char data[][200],int *count) {
        FILE* pFile;
        pFile = fopen(fname, "r");
        if (pFile == NULL) {
                printf("cannot open the file!\n");
                *count = 0;
                return false;
        }
        int i = 0;
        char a[200];
        //read char
           while(fgets(a,100,pFile)!=NULL)
           {
                   strcpy(data[i],a);
                   i++;
                   (*count)++;
           }
        //
        fclose(pFile);
        return true;
}
int main() {
        char fname[] = "original.txt";
        char f2name[] = "cypher.txt";
        char f3name[] = "decrypted.txt";
        int count = 0;
        int count_b = 0;
        char original[11][200];
        char cypher[11][200];

        read_file(fname, original, &count);
        write_file(f2name, original, &count);
        read_file(f2name,cypher,&count_b);
```

```
        write_decrypted_file(f3name,cypher,&count_b);
        return 0;
}
```

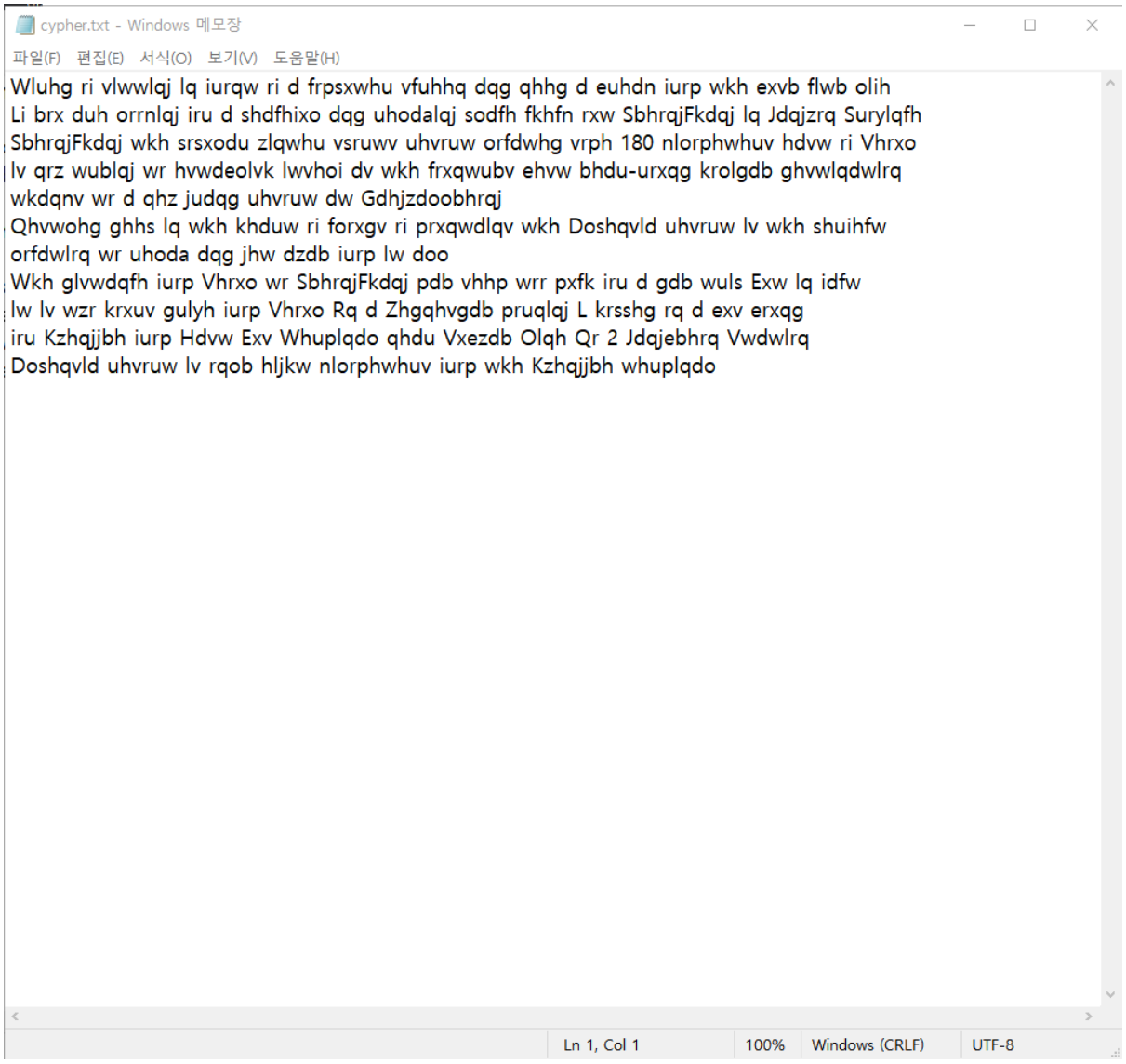


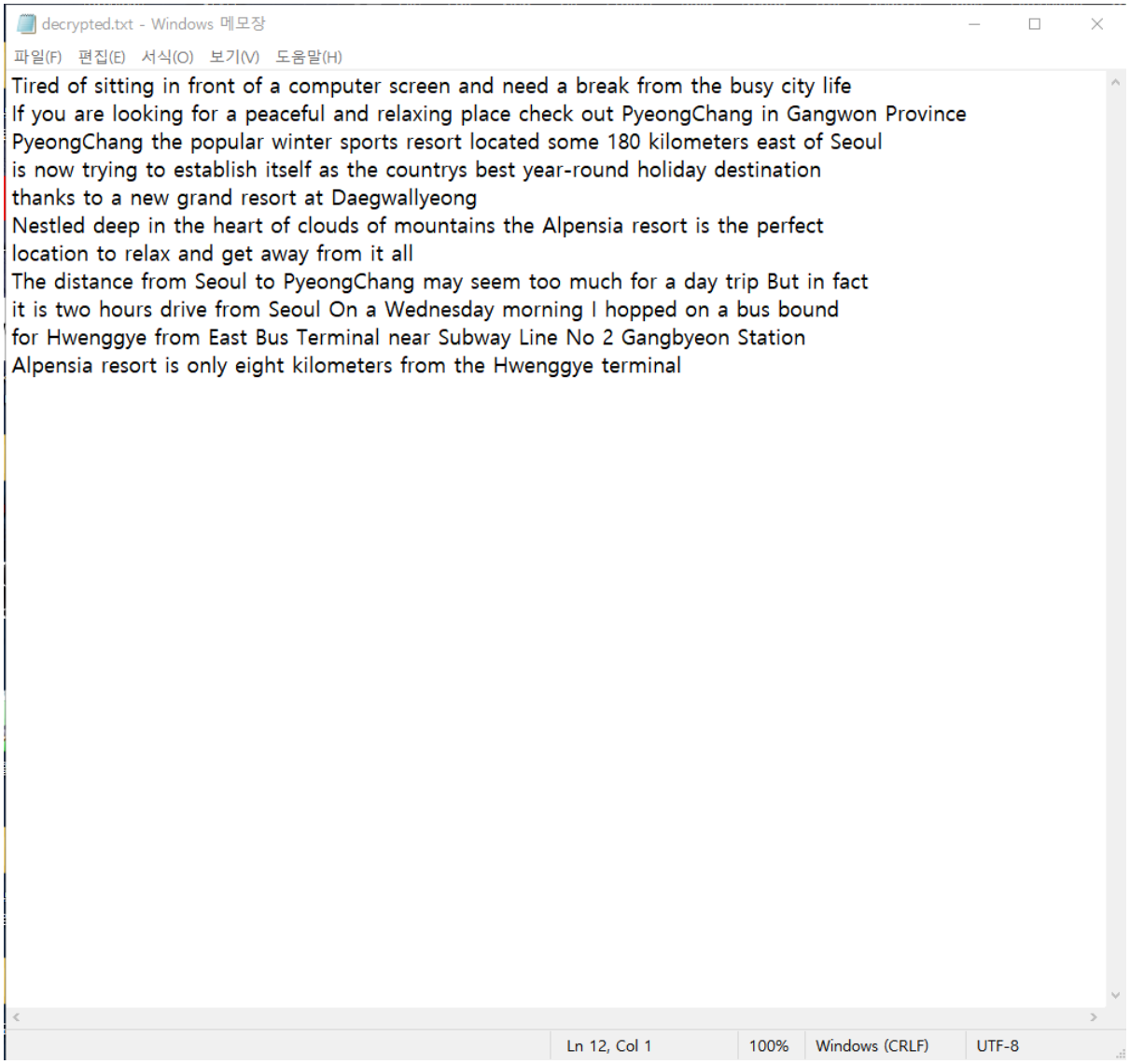
original.txt - Windows 메모장

파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)

Tired of sitting in front of a computer screen and need a break from the busy city life
If you are looking for a peaceful and relaxing place check out PyeongChang in Gangwon Province
PyeongChang the popular winter sports resort located some 180 kilometers east of Seoul
is now trying to establish itself as the countrys best year-round holiday destination
thanks to a new grand resort at Daegwallyeong
Nestled deep in the heart of clouds of mountains the Alpensia resort is the perfect
location to relax and get away from it all
The distance from Seoul to PyeongChang may seem too much for a day trip But in fact
it is two hours drive from Seoul On a Wednesday morning I hopped on a bus bound
for Hwenggye from East Bus Terminal near Subway Line No 2 Gangbyeon Station
Alpensia resort is only eight kilometers from the Hwenggye terminal

Ln 11, Col 68 100% Windows (CRLF) UTF-8


cypher.txt - Windows 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
Wluhg ri vlwwlqj lq iurqw ri d frpsxwhu vfuhhq dqg qhhg d euhdn iurp wkh exvb flwb olih
Li brx duh orrnlqj iru d shdfhixo dqg uhodalqj sodfh fkhfn rxw SbhrqjFkdqj lq Jdqjzrq Surylqfh
SbhrqjFkdqj wkh srsxodu zlqwhu vsruwv uhvruw orfdwhg vrph 180 nlorphwhuv hdvw ri Vhrxo
lv qrz wublqj wr hvwdeolvk lwvhoi dv wkh frxqwubv ehvw bhdu-urxqg krolgdb ghvwlqdwlrq
wkdqnv wr d qhz judqg uhvruw dw Gdhjzdoobhrqj
Qhvwohg ghhs lq wkh khduw ri forxgv ri prxqwdlqv wkh Doshqvld uhvruw lv wkh shuihfw
orfdwlrq wr uhoda dqg jhw dzdb iurp lw doo
Wkh glvwdqfh iurp Vhrxo wr SbhrqjFkdqj pdb vhhp wrr pxfk iru d gdb wuls Exw lq idfw
lw lv wzr krxuv gulyh iurp Vhrxo Rq d Zhgqhvgdb pruqlqj L krsshg rq d exv erxqg
iru Kzhqjjbh iurp Hdvw Exv Whuplqdo qhdu Vxezdb Olqh Qr 2 Jdqjebhrq Vwdwlrq
Doshqvld uhvruw lv rqob hljkw nlorphwhuv iurp wkh Kzhqjjbh whuplqdo
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8


decrypted.txt - Windows 메모장
파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
Tired of sitting in front of a computer screen and need a break from the busy city life
If you are looking for a peaceful and relaxing place check out PyeongChang in Gangwon Province
PyeongChang the popular winter sports resort located some 180 kilometers east of Seoul
is now trying to establish itself as the countrys best year-round holiday destination
thanks to a new grand resort at Daegwallyeong
Nestled deep in the heart of clouds of mountains the Alpensia resort is the perfect
location to relax and get away from it all
The distance from Seoul to PyeongChang may seem too much for a day trip But in fact
it is two hours drive from Seoul On a Wednesday morning I hopped on a bus bound
for Hwenggye from East Bus Terminal near Subway Line No 2 Gangbyeon Station
Alpensia resort is only eight kilometers from the Hwenggye terminal
Ln 12, Col 1
100%
Windows (CRLF)
UTF-8