문제해결기법(13967005)

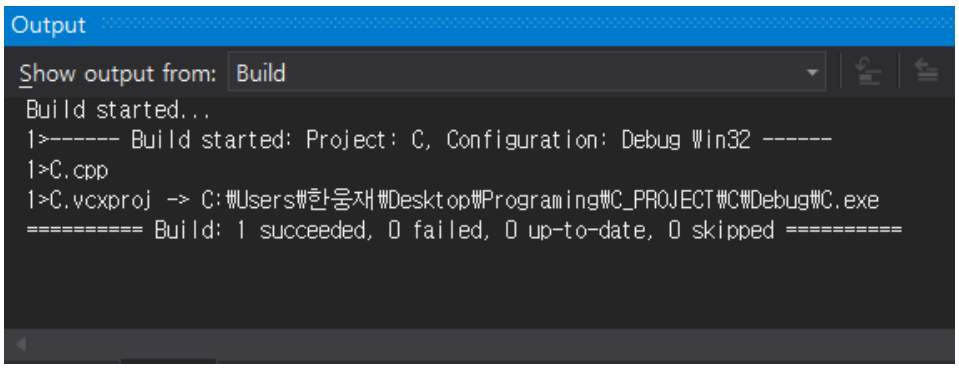
202135592 한웅재

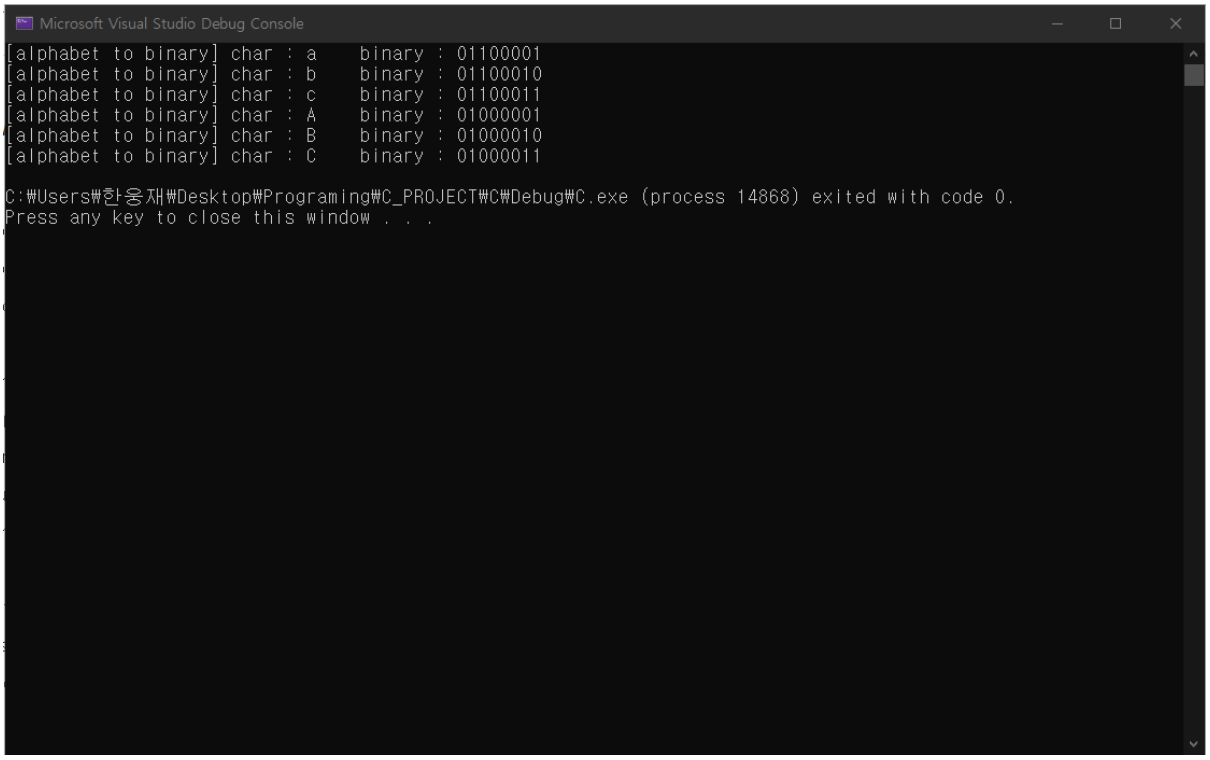
소프트웨어

제출일: 2021. 11. 10

Q1. Lab1 (p. 34)

```c
#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>
int mask = 0x80;
void alphabet_to_binary(char x) {
	for (int i = 0; i < 8; i++) {
		if (x & mask) {
			printf("1");
			x = x << 1;
		}
		else {
			printf("0");
			x = x << 1;
		}

	}
	printf("\n");
}
int main() {
	char ch[] = "abcABC";

	for (int i = 0;i < 6; i++) {
		printf("[alphabet to binary] char : %c    binary : ", ch[i]);
		alphabet_to_binary(ch[i]);
	}

	return 0;
}
```

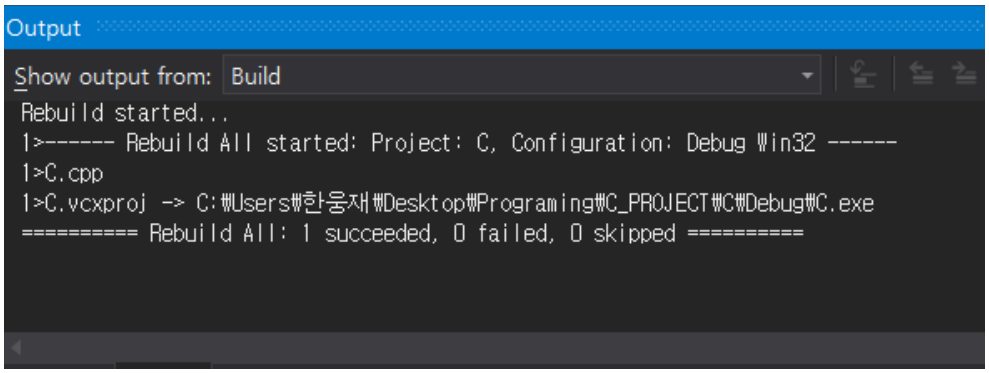


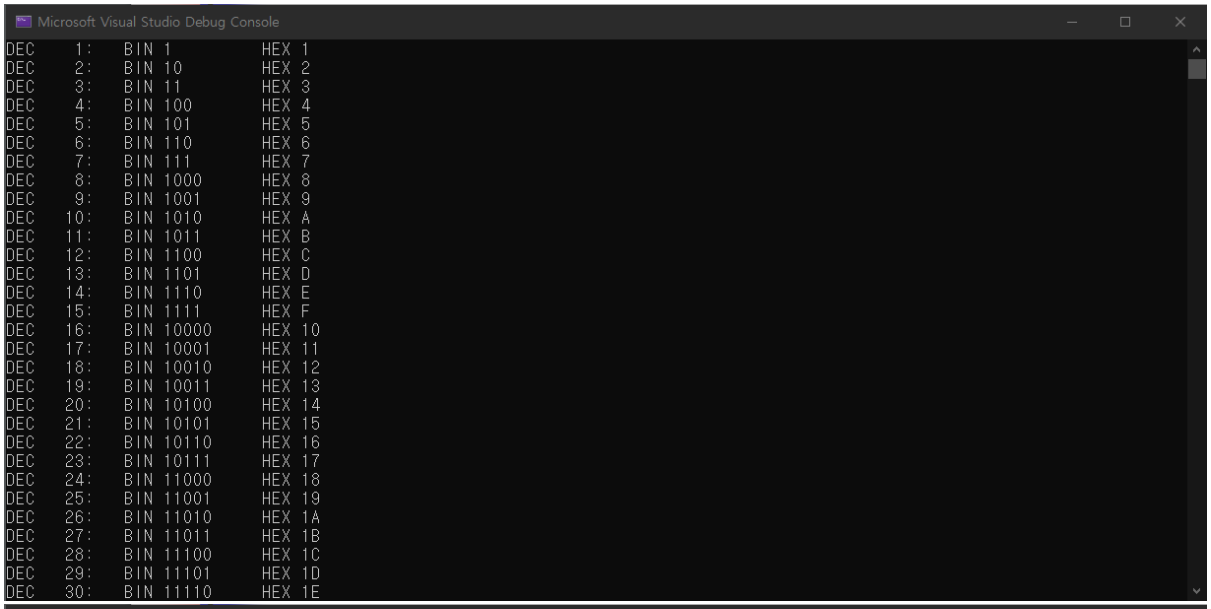

Microsoft Visual Studio Debug Console
[alphabet to binary] char : a binary : 01100001
[alphabet to binary] char : b binary : 01100010
[alphabet to binary] char : c binary : 01100011
[alphabet to binary] char : A binary : 01000001
[alphabet to binary] char : B binary : 01000010
[alphabet to binary] char : C binary : 01000011
C:₩Users₩한웅재₩Desktop₩Programing₩C_PROJECT₩C₩Debug₩C.exe (process 14868) exited with code 0.
Press any key to close this window . . .

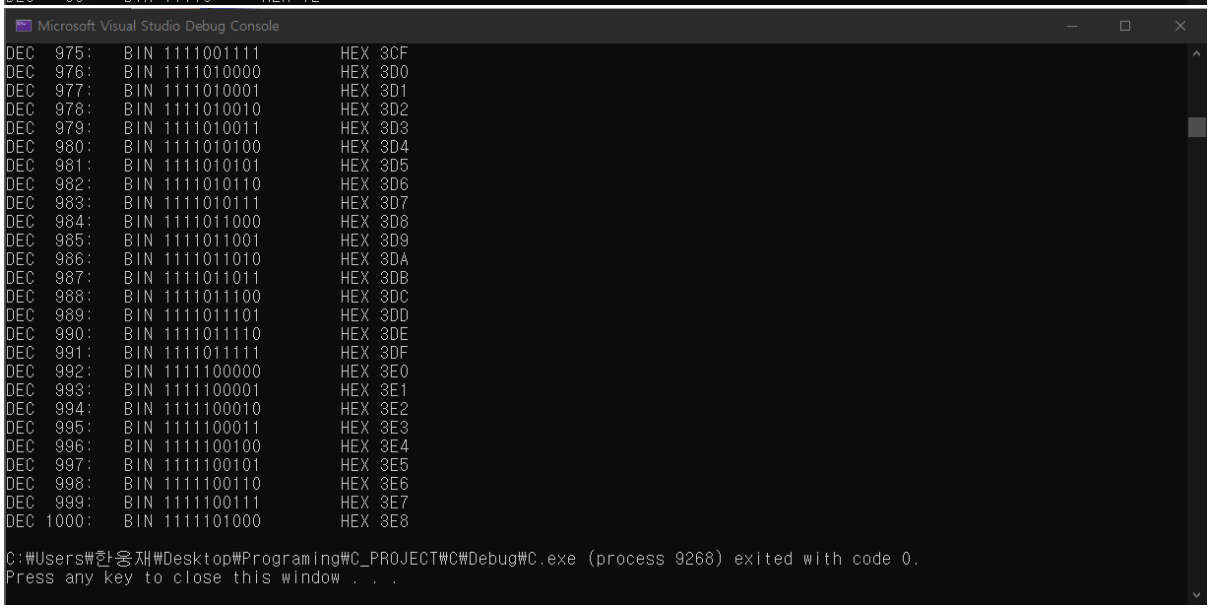
Q2. Lab2 (p. 38)

```c
#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>
void decimal_to_binary(unsigned int x) {
	unsigned int a = 0x80000000;
	int i = 0;
	for (i = 31; i >= 0; i--) {
		if (x & (1 << i))
			break;
		a >>= 1;
	}
	for (i; i >= 0; i--) {

		if (x & a) {
			printf("1");
			a >>= 1;
		}
		else {
			printf("0");
			a >>= 1;
		}

	}
}
void decimal_to_hexdemical(int x) {
	int i,h;
	int k = 0;
	for (i = 31; i >=0; i -= 1) {
		if (x &(1<< i))
			break;
		k++;
	}
	if (k % 4 != 0) {
		k = 32 - k - (4 - k % 4);
	}
	else
		k = 28 - k;
	for (k; k >=0; k -= 4) {
		h = ((x>>k)&0xF);
		if (h<10) {
			printf("%d", h);
		}
		else {
			printf("%c", h + 55);
		}
	}
}
int main() {
	for (int i = 1; i < 1001; i++) {
		printf("DEC %4d:   BIN ", i);
		decimal_to_binary(i);
		printf("         HEX ");
		decimal_to_hexdemical(i);
		printf("\n");
```

```
        }

        return 0;}
```


Output
Show output from: Build
Rebuild started...
1>------ Rebuild All started: Project: C, Configuration: Debug Win32 ------
1>C.cpp
1>C.vcxproj -> C:₩Users₩한웅재₩Desktop₩Programing₩C_PROJECT₩C₩Debug₩C.exe
========== Rebuild All: 1 succeeded, 0 failed, 0 skipped ==========


Microsoft Visual Studio Debug Console
DEC 1: BIN 1 HEX 1
DEC 2: BIN 10 HEX 2
DEC 3: BIN 11 HEX 3
DEC 4: BIN 100 HEX 4
DEC 5: BIN 101 HEX 5
DEC 6: BIN 110 HEX 6
DEC 7: BIN 111 HEX 7
DEC 8: BIN 1000 HEX 8
DEC 9: BIN 1001 HEX 9
DEC 10: BIN 1010 HEX A
DEC 11: BIN 1011 HEX B
DEC 12: BIN 1100 HEX C
DEC 13: BIN 1101 HEX D
DEC 14: BIN 1110 HEX E
DEC 15: BIN 1111 HEX F
DEC 16: BIN 10000 HEX 10
DEC 17: BIN 10001 HEX 11
DEC 18: BIN 10010 HEX 12
DEC 19: BIN 10011 HEX 13
DEC 20: BIN 10100 HEX 14
DEC 21: BIN 10101 HEX 15
DEC 22: BIN 10110 HEX 16
DEC 23: BIN 10111 HEX 17
DEC 24: BIN 11000 HEX 18
DEC 25: BIN 11001 HEX 19
DEC 26: BIN 11010 HEX 1A
DEC 27: BIN 11011 HEX 1B
DEC 28: BIN 11100 HEX 1C
DEC 29: BIN 11101 HEX 1D
DEC 30: BIN 11110 HEX 1E


Microsoft Visual Studio Debug Console
DEC 975: BIN 1111001111 HEX 3CF
DEC 976: BIN 1111010000 HEX 3D0
DEC 977: BIN 1111010001 HEX 3D1
DEC 978: BIN 1111010010 HEX 3D2
DEC 979: BIN 1111010011 HEX 3D3
DEC 980: BIN 1111010100 HEX 3D4
DEC 981: BIN 1111010101 HEX 3D5
DEC 982: BIN 1111010110 HEX 3D6
DEC 983: BIN 1111010111 HEX 3D7
DEC 984: BIN 1111011000 HEX 3D8
DEC 985: BIN 1111011001 HEX 3D9
DEC 986: BIN 1111011010 HEX 3DA
DEC 987: BIN 1111011011 HEX 3DB
DEC 988: BIN 1111011100 HEX 3DC
DEC 989: BIN 1111011101 HEX 3DD
DEC 990: BIN 1111011110 HEX 3DE
DEC 991: BIN 1111011111 HEX 3DF
DEC 992: BIN 1111100000 HEX 3E0
DEC 993: BIN 1111100001 HEX 3E1
DEC 994: BIN 1111100010 HEX 3E2
DEC 995: BIN 1111100011 HEX 3E3
DEC 996: BIN 1111100100 HEX 3E4
DEC 997: BIN 1111100101 HEX 3E5
DEC 998: BIN 1111100110 HEX 3E6
DEC 999: BIN 1111100111 HEX 3E7
DEC 1000: BIN 1111101000 HEX 3E8
C:₩Users₩한웅재₩Desktop₩Programing₩C_PROJECT₩C₩Debug₩C.exe (process 9268) exited with code 0.
Press any key to close this window . . .