Introductory Programming UESTC1005

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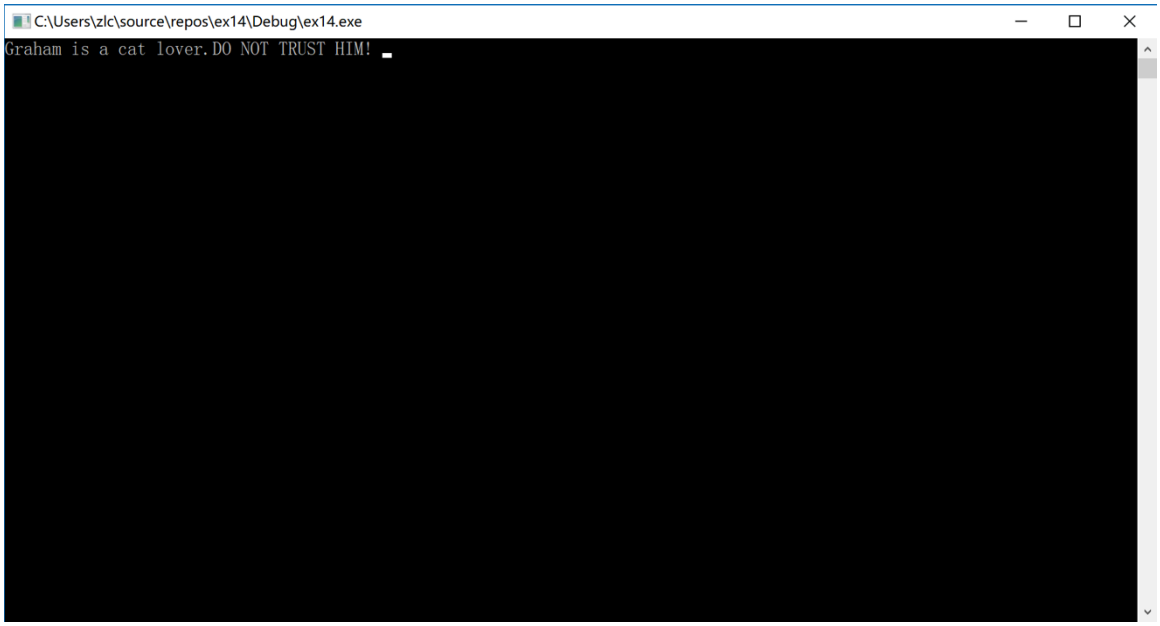
You will need to complete the demonstration of this week lab and submit this report into BB （it will be added into your portfolio of work).

Exercise 14: Bit manipulation

Task_A: Follow the instructions in Week 15 Lab manual and past your screen short of your result here.

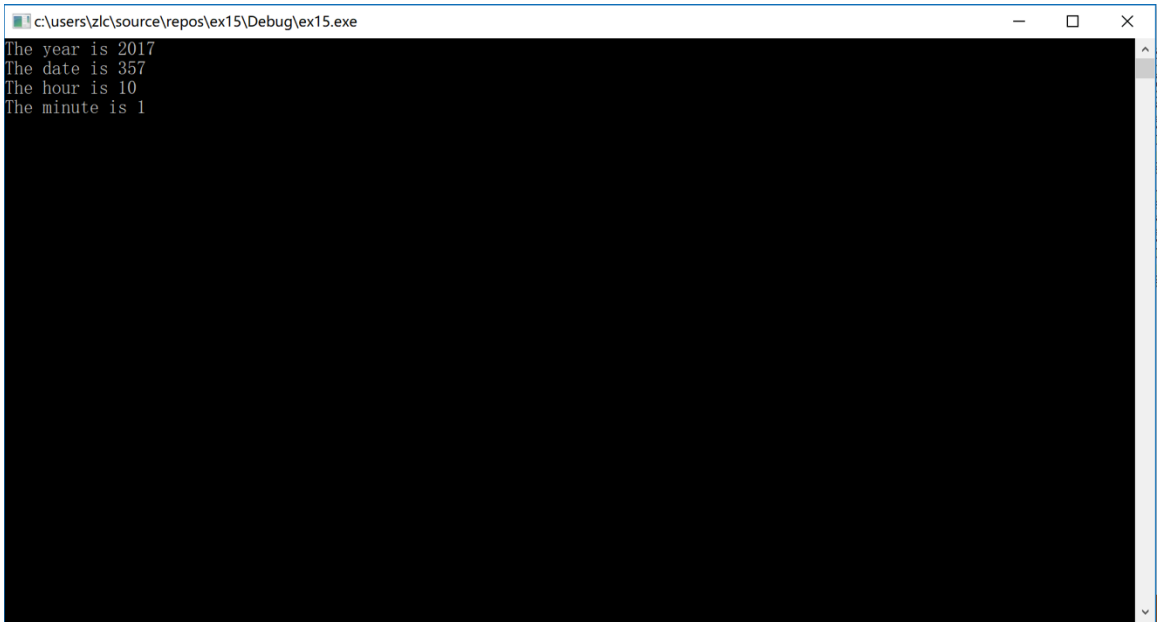


Task_B: Please attach your source code here.

```
//This is a program about bit manipulation
#define _CRT_SECURE_NO_WARNINGS
#include<stdio.h>
void Decrypt(int former[], char decryption[]) {
	int i;
	int latter[20];
	for (i = 0; i < 20; i++) {
		latter[i] = former[i] ^ 31337;
		decryption[2 * i] = latter[i] >> 8;
		decryption[2 * i + 1] = latter[i];
	}
}
void Text(char text[]) {
	int i;
	for (i = 0; i<40; i++)
		printf("%c", text[i]);
}
int main() {
	int secret[20] =
{15643,6913,6916,23040,2377,6985,6408,3657,5638,3084,2119,15910,23079,13629,23101,10300,10557,23073,13092,23369};
	char decryption[100];
	Decrypt(secret, decryption);
	Text(decryption);
	getchar();
}
```

Exercise 15: Pointers

Task_A: Follow the instructions in Week 15 Lab manual and past your screen short of your result here.



Task_B: Please attach your source code here.

```c
//This is a program to calculate today's year, date, hour, and minute.
#define _CRT_SECURE_NO_WARNINGS
#include<stdio.h>
#include<time.h>

void A(int clock, int *year, int *date) {
                year    clock                                                   //1 year=60*60*24*365 seconds;In C on the lab computers, we get the
number of seconds since 00:00:00 UTC on 1 January 1970.
                *date = (clock / (60 * 60 * 24)) % 365;                  //1 day=60*60*24 seconds
}

void B(int clock, int *hour, int *minute) {
                *hour = (clock / (60 * 60)) % 24 + 8;                  //1hour=60*60 seconds; hour(Beijing)=UTC+8
                *minute = (clock / 60) % 60;
}

void    int year  int date  int hour  int minute
                        "The year is %d\n"  year
                        "The date is %d\n"  date
                        "The hour is %d\n"  hour
                        "The minute is %d\n"  minute
}

int main() {
                int year, date, hour, minute;
                long int clock = time(NULL);
                A(clock, &year, &date);
                B(clock, &hour, &minute);
                C(year, date, hour, minute);
                getchar();
}
```