

Lab 2-2

Data Structure



Lab 2-2

1. Sign in a new GitLab server
2. Do Lab 2-4

Evaluation criteria

Category	Evaluation	
2-4	100	
Total	100	

*Use GCC 4.8 version or 5.4 version.
No score will be given if the gcc version is different.*



Lab2

- You should finish the first problem (Lab 2–4) during the lab session and submit it to the git. You can leave for home after confirm it with the TA.
- Folder name : Lab2


Lab 2-4. ADT

Input 2 integers as argument input.

execute 5 functions.


1. IsZero
2. Equal
3. Successor
4. Add
5. Subtract

```
ds2018@ds2018-VirtualBox:~/Desktop/DS_lab/ADT_w3$ ./p3_1 14 2147483647
Is 14 zero? False
Is 2147483647 zero? False
Does 14 equal 2147483647? False
14's next number is 15
2147483647's next number is 2147483647
14 + 2147483647 = 2147438647
14 - 2147483647 = 0
```



Lab 2-4. ADT

1. IsZero; if x is zero return True, if not return false
2. Equal; If x is equal to y , return True. If not, return False.
3. Successor; If $x+1$ is smaller than INT_MAX, return $x+1$. If not, return x .
4. Add; If $x+y$ is smaller than INT_MAX, return $x+y$. If not, return INT_MAX.
5. Subtract; If x is larger than y , return $x-y$. If not, return 0.



Lab 2-4. ADT

- program name : p2_4.c
- data structure : integer
- input : 2 integers separated by space.
- output : result of 5 functions
- condition : 2147438647 is integer's max number. It can not be increased.

Lab 2-4. ADT

```
#include<stdio.h>
#include<stdbool.h>
#include<stdlib.h>

#define INT_MAX 2147438647

int Zero();
bool IsZero(int);
bool Equal(int, int);
int Successor(int);
int Add(int, int);
int Subtract(int, int);

int main(int argc, char** args)
{
    int x = atoi(args[1]);
    int y = atoi(args[2]);

    printf("Is %d zero? %s\n",x,IsZero(x) ? "True": "False");
    printf("Is %d zero? %s\n",y,IsZero(y) ? "True": "False");
    printf("Does %d equal %d? %s\n",x,y,Equal(x,y) ? "True": "False");
    printf("%d's next number is %d\n",x,Successor(x));
    printf("%d's next number is %d\n",y,Successor(y));
    printf("%d + %d = %d\n", x, y, Add(x,y));
    printf("%d - %d = %d\n", x, y, Subtract(x,y));

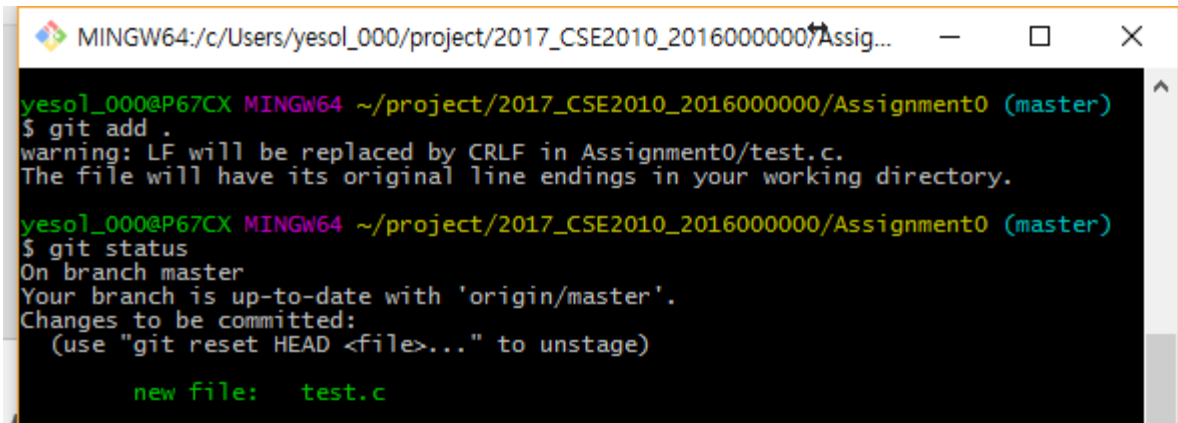
    return 0;
}
```


Git Usage

Add all files in the directory to git

```
$ git add .
```

```
$ git status
```

A screenshot of a terminal window titled 'MINGW64: c:/Users/yesol_000/project/2017_CSE2010_2016000000/Assignment0'. The terminal shows the following commands and output:

```
yesol_000@P67CX MINGW64 ~/project/2017_CSE2010_2016000000/Assignment0 (master)
$ git add .
warning: LF will be replaced by CRLF in Assignment0/test.c.
The file will have its original line endings in your working directory.

yesol_000@P67CX MINGW64 ~/project/2017_CSE2010_2016000000/Assignment0 (master)
$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

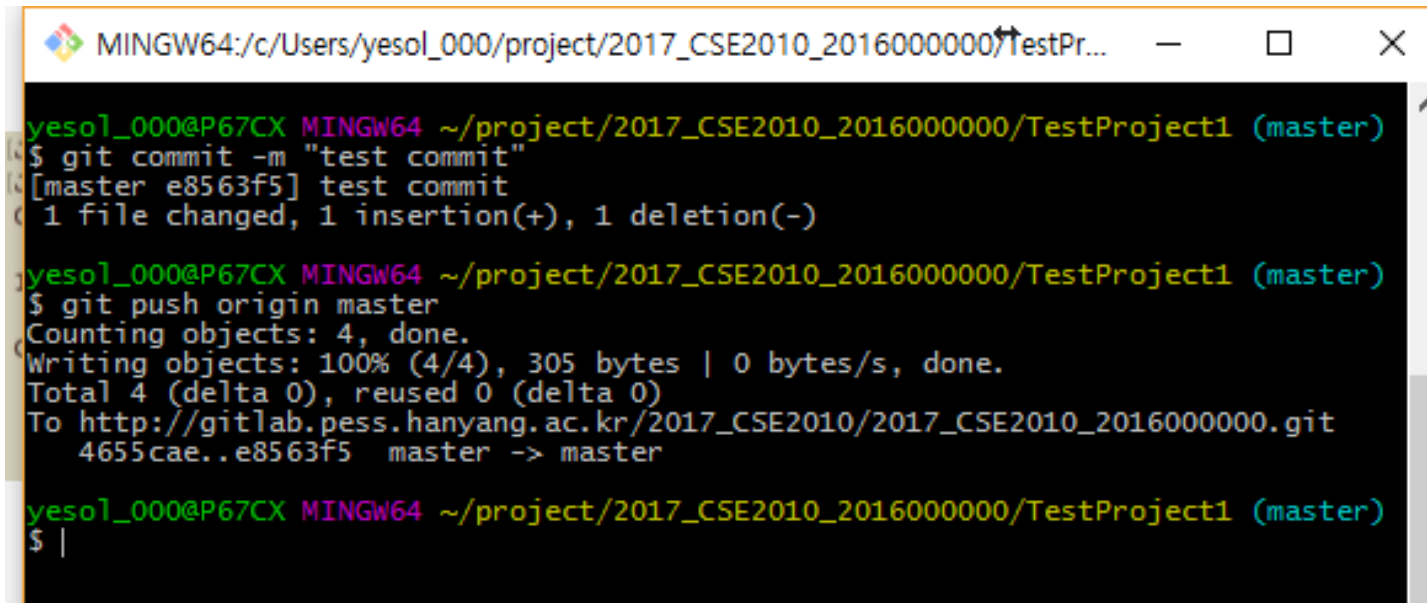
    new file:   test.c
```

Git Usage

Commit file (Save to local repository 지역 저장소에 저장)

```
$ git commit -m "[commit log message]"
```

```
$ git push origin master
```



```
MINGW64:/c/Users/yesol_000/project/2017_CSE2010_2016000000/TestPr...
yesol_000@P67CX MINGW64 ~/project/2017_CSE2010_2016000000/TestProject1 (master)
$ git commit -m "test commit"
[master e8563f5] test commit
1 file changed, 1 insertion(+), 1 deletion(-)

yesol_000@P67CX MINGW64 ~/project/2017_CSE2010_2016000000/TestProject1 (master)
$ git push origin master
Counting objects: 4, done.
Writing objects: 100% (4/4), 305 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To http://gitlab.pess.hanyang.ac.kr/2017_CSE2010/2017_CSE2010_2016000000.git
4655cae..e8563f5  master -> master

yesol_000@P67CX MINGW64 ~/project/2017_CSE2010_2016000000/TestProject1 (master)
$ |
```

※ Commit log message should be write in detail

로그 메시지는 최대한 자세히 작성할 것.

ex) This is a program that prints a message "hello world"