

Solve the problem below. After you are done, rename the file containing your source code as your *StudentId.c* (For example, if your student ID is **2005001**, the name of your file should be **2005001.c**). Then submit that file to Moodle. Make sure you submit a file containing your source code.

***Failure to follow these instructions will result in penalties.**

Problem Description

Suppose, for **efficiency of storage**, a date **YYYY/MM/DD** has been **encoded** into an *unsigned integer* number **N** according to the following:

- The **rightmost (LSB)** bits in **N** are used to store the day **DD**. Note that the *first day* of any month is encoded as day **0**.
- The **bits on the left (MSB)** of **DD** in **N** are used to store the *month* **MM**. Note that *January* is encoded as month **0**, not month **1**.
- The **bits on the left (MSB)** of **MM** in **N** are used to store the *year* **YYYY**.

In this encoding scheme, it is **mandatory** that the representation is **as efficient as possible** (i.e. the *unsigned integer* requires **as few bits as possible**). The unused bits are kept set to **0**.

Your tasks in this assignment are the following:

1. Implement a **C** function **int get_day(unsigned int N)** that takes an *unsigned int* as input and then returns the day (**DD**) encoded into it.. [2]
2. Implement a **C** function **int get_month(unsigned int N)** that takes an *unsigned int* as input and then returns the month (**MM**) encoded into it. [3]
3. Implement a **C** function **int get_year(unsigned int N)** that takes an *unsigned int* as input and then returns the year (**YYYY**) encoded into it. [3]
4. Now, Write a **C** program that takes an *unsigned integer* number **N** as input, then using the above functions, computes the *day*, *month* and *year* from it and finally prints the date in the desired **YYYY/MM/DD** format. [2]

Sample Input	Sample Output
1035264	2022/01/01
978750	1911/10/31

N.B.:

- ★ You **must** use **bitwise operations** to complete this task.
- ★ You **can not** use any **global** or **static** variables while solving this problem.
- ★ You **can not** use any library function for this task (other than **I/O**).
- ★ Do **not** assume the length of any **data type**.
- ★ You **can** assume that the provided input will **always** be valid.