

**CSE2122 (Spring 2020)**  
**Homework 1, due 1/17/2019 11:59pm**

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*Before you start, please login your stdlinux account and download the solution file and the template program from the class directory to your stdlinux directory. You can use the command `"cp /class/cse2122/hw1/* ./."`.*

*Submit your code to the designated dropbox on Carmen under the Assignments tab. Late submissions receive a 10% penalty for each day. No late submissions after the second day.*

Skills needed to complete this assignment: conditionals, loops and functions.

The keypad on your oven is used to enter the desired cooking time and is arranged like the digits on a phone.

1	2	3
4	5	6
7	8	9
	0	

Unfortunately, the circuitry is damaged and the digits in the leftmost column no longer function. In other words, the digits 1, 4, and 7 do not work. If a recipe calls for a time that can't be entered, then you would like to substitute a time that can be entered.

Write a program that inputs a desired time. The cooking time must be between 00:01 and 09:59. If the desired time does not contain 1, 4, or 7, then output the desired time. Otherwise, compute the next longer time that does not contain 1, 4, or 7 and output it. If the desired time is invalid (time is not between 00:01 and 09:59, or the minute argument is greater than 59), the program outputs error messages.

**Example 1:**

**Input:** 00:20

**Expected output:** 00:20

**Explanation:** The desired time does not contain 1, 4, or 7.

**Example 2:**

**Input:** 00:01

**Expected output:** 00:02

**Example 3:**

**Input:** 00:47

**Expected output:** 00:50

**Example 4:****Input:** 07:00**Expected output:** 08:00**Example 5:****Input:** 00:69**Expected output:** The desired time is invalid.**Explanation:** The minute argument must be less than or equal to 59.**Example 6:****Input:** 20:00**Expected output:** The desired time is invalid.**Explanation:** The desired time must be between 00:01 and 09:59.**Example 7:****Input:** 00:00**Expected output:** The desired time is invalid.**Explanation:** The desired time must be between 00:01 and 09:59.

Your program should behave exactly like the solution file with the same input and output. Several function declarations are provided in the template program, but you are free to delete them and declare any functions you like.

## Program Submission

Compile your code with the following command. Submissions do not compile with the following command will receive zeros.

```
g++ <your file name> -std=c++11 -pedantic-errors
```

Make sure your code is formatted properly. Your program should have appropriate indentation and necessary comments. See textbook on section 2.5 or any code example in textbook/lecture slides.

Submit your code (the .cpp file) to the designated dropbox on Carmen. You can find the dropbox under the Assignments tab.