

# CPP Problem Design Example

**Subject:** Seven-segment Display

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**Main testing concept:** Basic String

## Basics

- ☒ C++ BASICS
- ☒ FLOW OF CONTROL
- ☐ FUNCTION BASICS
- ☐ PARAMETERS AND OVERLOADING
- ☐ ARRAYS
- ☐ STRUCTURES AND CLASSES
- ☐ CONSTRUCTORS AND OTHER TOOLS
- ☐ OPERATOR OVERLOADING, FRIENDS, AND REFERENCES
- ☒ STRINGS
- ☐ POINTERS AND DYNAMIC ARRAYS

## Functions

- ☐ SEPARATE COMPILATION AND NAMESPACES
- ☐ STREAMS AND FILE I/O
- ☐ RECURSION
- ☐ INHERITANCE
- ☐ POLYMORPHISM AND VIRTUAL FUNCTIONS
- ☐ TEMPLATES
- ☐ LINKED DATA STRUCTURES
- ☐ EXCEPTION HANDLING
- ☐ STANDARD TEMPLATE LIBRARY
- ☐ PATTERNS AND UML

## Description:

Write a program that prompts the user for a number and then displays the number, using characters to simulate the effect of a seven-segment display.

## Input:

Give numbers. Please ignore the characters not number.  
The number of characters in one line no more than 100.  
Finish when EOF.

## Output:

Print the input numbers by seven-segment format.

Example: If input is 83-5, then output will be

\*\_\*\_\*\_\*\_\*

|\_|\*|\_|\_|\*

|\_|\*|\*|\_|

※For convenience, the ‘\*’ above means ‘ ’, the true output use ‘ ’ (blank).

## Sample Input / Output :

Sample Input	Sample Output
1234567890	<pre>  _  _  _  _  _  _  _  _  _  _  _ _ _ _ _ _ _ _ _ _ _ _ _ _ _    _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ </pre>

- ☒ Easy, Only basic programming syntax and structure are required.
- ☐ Medium, Multiple programming grammars and structures are required.
- ☐ Hard, Need to use multiple program structures or complex data types.

## Expected solving time:

15 minutes

**Other notes:**

If the sample output display not clear, please copy to notepad and Observe.