CS111 Homework 2

Name your program **hw2.cpp**. Program must be able to compile or you will get at most 1.5 out 3 points for the assignment.

Write **one single** complete C++ program to do all three sections below:

A. Submit your program for lab#6 question 4 (Change in bills).

B. Write a complete C++ program that does the following:
   
   (a) Declares a variable number of type int.
   (b) Prompts user for a positive 3-digits integer.
   (c) Tests the input for out of bound cases – larger or smaller than 3 digits using *if-else* statements.
   (d) Calculates and prints the sum of the digits if the input value is valid.
   (e) Otherwise, display *an error message* and terminate the program.

Program output should look similar to below:

**Part B:**

Please input 3-digit positive integer. **441**  
The sum of all digits in 441 is 9.

C. Write a program that:
   
   (a) Find and print the smallest integer n such that \( n^2 \) is greater than 12,000.
   (b) Find and print the largest integer n such that \( n^3 \) is less than 12,000.