COP1334C
Introduction to C++ Programming

Functions Practice Class Lab

Write a program that defines and tests the functions indicated below (1 through 9)

Notes:

- Name the source code file *functions.cpp*
- Test all the function by calling them from main() – Make sure to prompt user for data as needed.
- Document your program by including your name, name of file, and a summary of what the program intention is. No IPO chart is required.

1. Function named SphereVolume() that receives the radius of a sphere as a double, calculates and returns its volume

   The formula for the volume of a sphere is :

$V = \frac{4}{3} \pi r^3$	
V	volume
r	radius

2. Function named IsEven() that determines whether an integer number is even. It returns true if the number is even, false otherwise.
   Note: A number is even if it is divisible by 2.

3. Function named LetterGrade() that accepts a numeric grade (0-100) as an integer, and returns its corresponding letter grade (A-F).

4. Function named Average() that receives four integer values and returns their average.

5. Function named Max() that accepts two integer values as arguments, and returns through a reference parameter, the maximum among them.

6. Function named DisplayFile() that receives the name of a file, and displays its contents.

7. Function named NumberStats() that reads the file "numbers.txt" and returns, through reference parameters, the lowest number and highest numbers in the file.

8. Function named IsMultipleThree() that accepts a number n and returns, through a reference parameter, true if n is a multiple of 3 / false otherwise
   Note: A number is multiple of 3 if the remainder of the integer division is 0.

9. Function named Login() that prompts the user for its login id and password as strings, and returns them through reference parameters.

Grading Rubric:	Functions – 10 points each	90
	Main	10

Function Prototypes
double SphereVolume(double r)
bool IsEven(int number)
char LetterGrade(int ngrade)
double Average(int n1, int n2, int n3, int n4)
void Max(int num1, int num2, int& greatest)
void DisplayFile(string)
void NumbersStats(int& lowest, int& highest)
void IsMultipleThree(int n, bool& isIt)
void Login(string &id, string &password)