**Computer Programming**

**Experiment 4: Numeric Arrays (Chapter 6)**

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| **Class:** |  |
| **ID:** |  |
| **Name:** |  |

1. **Goal**

* Understand numeric arrays of a C program
* Grasp the declaration, initialization, and use of a 1-D or 2-D array
* Understand passing by value and passing by address
* Grasp how to pass individual array elements/an entire array to functions

1. **Requirements**

Please finish your experiment independently. You could use Integrated Development Evironments (IDE), such as CodeBlocks, Microsoft Visual C++, gcc, and Apple XCode. Write out a full program, fix any bugs, and make sure your code is runnable.

1. **Contents**
2. Page 311-1: Please learn Lesson 6.6, grasp three ways to sort an array, and then complete the exercise.
3. Page 313, Application Program 6.1: Deriving a 16-Bit Adder From Sixteen 1-Bit Adders.
4. Page 317, Application Program 6.2: Mean and Median of Measured Wave Heights (Numerical Method Example)
5. Page 323, Application Program 6.3: Matrix-Vector Multiplication (Numerical Method Example)
6. Page 327, Application Program 6.4: Searching and File Compression
7. Page 338-6.14: Please learn the introduction to random number generation on page 337-338 and then complete the exercise.
8. **Results & Analysis**

Please describe the IDE you used, list the source code of your program, present your input and output, and analyze your results and the issues you encounter.

(Do not change the above contents. Please provide your answers below.)