Computer Programming I — Homework Assignment #1

**1.** (*Exercise 2.23*) Write a program that reads in five integers and determines

and prints the largest and the smallest integers in the group. Use only the programming techniques you learned in Chapter 2. The screen dialog should appear as follows:

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| **Enter five integers: 88 22 8 78 21**  **Largest is 88**  **Smallest is 8** |

**2.** (*Exercise 2.24*) Write a program that reads in an integer and determines and prints whether it is odd or even. [Hint: Use the modulus operator. An even number is a multiple of two. Any multiple of two leaves a remainder of zero when divided by 2.] The screen dialog should appear as follows:

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| **Enter an integer: 73**  **The integer 73 is odd.** |

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| **Enter an integer: 74**  **The integer 74 is even.** |

**3.** (*Exercise 2.28*) Write a program that inputs a five-digit integer, separates the integer into its individual digits and prints the digits separated from one another by three spaces each. [Hint: Use the integer division and modulus operators.] For example, if the user types in 42339, the program should print:

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| **4 2 3 3 9** |

**4.** (*Exercise 2.29*) Using only the techniques you learned in Chapter 2, write a program that calculates the squares and cubes of the integers from 0 to 10 and uses tabs to print the following neatly formatted table of values:

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| integer square cube  0 0 0  1 1 1  2 4 8  3 9 27  4 16 64  5 25 125  6 36 216  7 49 343  8 64 512  9 81 729  10 100 1000 |

**5.** Write a program that reads in a year as an integer and determines whether it is a leap year or not. (A year is a leap year if it is divisible by 4 but not divisible by 100, or is divisible by 400.) The screen dialog should appear as follows:

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| **Enter a year: 2012**  **Year 2012 is a leap year.** |

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| **Enter a year: 1900**  **Year 1900 is a common year.** |

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| **Enter a year: 2000**  **Year 2000 is a leap year.** |

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| **Enter a year: 2014**  **Year 2014 is a common year.** |