Dordt College Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Engineering 304, Microprocessor Interfacing, Spring 2020

Problem Set 1, Introductory Problems

1 **Gossary**.   
Define these terms in ways that distinguish the various terms from each other.

a.) Computer processor.

b.) Microprocessor

c.) Microcontroller

d.) Digital Signal Processor

e.) Embedded System

f.) System-on-a-Chip

2 **Integrated Development Environment (IDE)**.   
Describe what an IDE is and the essential tasks it performs.

3 **Arduino**.

Describe the chip that is at the core of the Arduino Uno Board. Give the part number, type of chip (a microprocessor, or a microcontroller, or a digital signal processor, etc.), type of package the chip is mounted in on the Arduino Uno board, and name some major features of this chip. Write up to 300 words, but no more.

4 **Optional Survey Question—Not Graded**.

What computer language(s) have you formally studied? . . .or informally studied?   
How confident are you with these concepts of programming: Data types, scope of variables, array variables, structured variables, casting data from one type to another, FOR and WHILE loops (a.k.a. “DO loops”), stack manipulations such as PUSH, POP, CALL, RETURN; Functions vs. procedures, I/O operations,

class (as in object-oriented programming)