Dordt University Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Engineering 304, Embedded Microcontroller Systems, Spring 2023

Problem Set 1, Introductory Problems

1 **Glossary Items**.   
Define these terms in ways that distinguish them from each other.

a.) General-purpose computer.

b.) Embedded System

2 **Cyber-Physical Systems**.   
In 200 words or less, explain the point of Figure 1.1 (on page 6) of the textbook.

3 **Development Environments.**   
Describe what a development environment is and the essential tasks it performs.

4 **CLI vs IDE.**   
a.) Describe the advantages of a command-line interface (CLI) development environment.

b.) Describe the advantages of an integrated development environment (IDE).

5 **Arduino**.

Describe the chip that is at the heart of the Arduino Uno Board. Give the part number, 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.