

Homework #1

ENGR 3613 Microprocessors and Lab
Spring 2023

Textbook:

Chapter 1:

Problems: E1.4, E1.5 and E 1.9

Due Date:

February 1, 2023

E1.4 How many bits can the HCS12 CPU manipulate in one operation?

It can handle 16 bits during one operation.

E1.5 How many different memory locations can the HCS12 access without the expanded memory?

$$2^{16 \text{ bits}} = 65,536 \text{ memory locations}$$

E1.9 Convert 5K, 8K, and 13K to decimal representation.

$$1K = 2^{10} = 1024$$

$$5K = 5 \cdot 2^{10} = 5,120$$

$$8K = 8 \cdot 2^{10} = 8,192$$

$$13K = 13 \cdot 2^{10} = 13,312$$