Chapter 2

Representing and Manipulating Information

2.1 Information Storage

2.1.1 Hexadecimal Notation

Practice Problem 2.1 *Perform the following number conversions:*

- ***A.*** *`0x39A7F8` to binary*
- ***B.*** *binary `1100100101111011` to hexadecimal*
- ***C.*** *`0xD5E4C` to binary*
- ***D.*** *binary `10011011100111110110101` to hexadecimal*

Solution:

- ***A.*** $3 = 0011$, $9 = 1001$, $A = 1010$, $7 = 0111$, $F = 1111$, $8 = 1000$

```
0x39A7F8 = 001110011010011111111000
```

- ***B.*** $1100 = C$, $1001 = 0$, $0111 = 7$, $1011 = B$

```
1100100101111011 = 0xC97B
```

- ***C.*** $D = 1101$, $5 = 0101$, $E = 1110$, $4 = 0100$, $C = 1100$

```
0xD5E4C = 11010101111001001100
```

- ***D.*** $0010 - 2$, $0110 = 6$, $1110 = E$, $0111 = 7$, $1011 = B$, $0101 = 5$

```
10011011100111110110101 = 0x26E7B5
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