Chương 1: Number systems and codes

Dạng 1: Dạng dữ liệu biểu diễn trên máy tính.

1.27 Assign a binary code in some orderly manner to the 52 playing cards. Use the minimum number of bits.

The answer:

25 =32 < 52, 26 = 64 >52 → 6 bits

The minimum number of bits for 52 cards is 6.

Dạng 2: Các Đơn vị đo dữ liệu (bits, byte, word,…)

1.2\* What is the exact number of bytes in a system that contains

a.32K bytes

b.64M bytes

c.6.4G bytes

The answer:

1. 32x210 bytes
2. 64x220 bytes
3. 6.4x213 bytes

1.32 What bit must be complemented to change an ASCII letter from capital to Lowercase and vice versa?

Dạng 3: So sánh sự khác nhau giữa ngôn ngữ bậc cao và bậc thấp

Dạng 4: Các thành phần trong máy tính Computer (CPU, RAM, HĐ,BUS,…)

Dạng 5: Chuyển đổi qua lại giữa các hệ đếm

1.3 Convert the following numbers with the indicated bases to decimal:

a. (4310)5

b. (198)12

c. (435)8

d. (345)6

* 1. What is the largest binary number that can be expressed with 16 bits?

What are the equiv-alent decimal and hexadecimal numbers?

* 1. Determine the base of the numbers in each case for the following operations to be correct:

1. 14/2=5
2. 54/4=13
3. 24+17=40

Dạng 6: Bù 1, Bù 2.

1.14 Obtain the 1’s and 2’s complements of the following binary numbers:

(a) 00010000

(b) 00000000

(c) 11011010

(d) 10101010

(e) 10000101

(f) 11111111

1.15 Find the 9’s and the 10’s complement of the following decimal numbers:

(a) 25,478,036

(b) 63,325,600

(c) 25,000,000

(d) 00,000,000