Alan S. Thomas

CSI 130-01CA

Pg. 4-34: 21,23,24,26,28AD,

31ABF,32AC,35AE,36AB,

37AC,39B,40A,41C,42C,44

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21)

RAM, cache, and registers are the three types of internal storage mentioned in this section.

a. Registers are the most expensive of the three. Considering the real-estate of working with a processor.

b. RAM is the cheapest of the three mentioned.

23)

DRAM utilizes capacitors to store data states. When the capacitor stores a charge it is in the ‘1’ state, when there is no charge it is in the ‘0’ state.

24)

SRAM stores information by utilizing four transistors. There’s transistors form a flip-flop which can in turn store a single bit of data.

26)

a. Mechanical hard drives.

b. Compact disc.

c. Thumb-drives(EEPROM).

28)

a. ‘S’

d. ‘L’

31)

a. 27

b. -27

f. -1

32)

a. 1100(12)

c. 101111 > 01111. Overflow detected since sign of the answer is incorrect.

35)

a. 1011

e. 0110

36)

a. 27

b. -101

37)

a. -10

c. 31 overflow detected.

39)

b. .721\*10-2 = .00721

40)

a. 23346, 1003

41)

c. 010000011110100000000000000000000

42)

c. 3.625

44) Attached to back.

//Alan Thomas CSI130

#include <iostream>

using namespace std;

int main()

{

int num = 0, ans = 0, pow = 1, i = 0;

int b[5] = { 0 };

//get two's number as input

cout << "Enter a 5 digit Twos Complement Number" << endl << "Your Number: ";

cin >> num;

//convert number to base10

i = 4;

for (i = 4; i >= 0; i = i - 1)

{

b[i] = num % 10;

num = num / 10;

}

//calculating total value of array

i = 4;

pow = 1;

ans = 0;

for (i = 4; i >= 0; i = i - 1)

{

ans = ans + b[i] \* pow;

pow = pow \* 2;

}

//Subtracting highest magnitude of the array from answer

i = 0;

for (i = 0; i >= 0; i = i - 1)

{

ans = ans - (b[i] \* pow);

}

//print answer

cout << endl;

cout << "Decimal Form: " << ans << endl;

return 0;

}