

# Computer Organization and Architecture

## Lecture 03: Revision — memory addressing

1. How many bytes are in a 32-bit word →
2. ANDing an 8-bit binary number with 1111 0000 is sometimes referred to as "Masking the lower 4 bits. Why?
3. \_\_\_\_\_ is a set of conductors that provide transfer path between various components in a system
4. \_\_\_\_\_ carries the information for the address of a specific memory location to access stored data
5. Increasing the \_\_\_\_\_ bus size, gives information about how memory system the CPU can communicate
6. A given mass storage device such as a hard disk can store 2 gigabytes of information. If each page of text has 25 rows and each row has 80 columns of ASCII characters (each character = 1 byte), approximately how many pages of information can this disk store? \_\_\_\_\_
7. A given computer has a 32-bit data bus. What is the largest number that can be carried into the CPU at a time?
8. \_\_\_\_\_ is the total amount of memory given that the address bus size is 32-bit
9. How many address lines are required for a 2K memory? \_\_\_\_\_
10. From the following table, read the binary data at memory location 9AH and convert it to decimal and hexadecimal.

| Memory address in Binary | Data (Binary) |
|--------------------------|---------------|
| 10011000                 | 11101011      |
| 10011001                 | 11000000      |
| 10011010                 | 10111001      |
| 10011011                 | 00001111      |
| 10011100                 | 11001100      |

Memory word in Binary \_\_\_\_\_

Memory word in Hexadecimal \_\_\_\_\_

Memory word in Decimal \_\_\_\_\_

