Midterm Review

Concepts
Chapter 1-5, 10 & 11

QBASIC
Chapter 1-9

Written Exam
- Thursday, April 3rd
- During Lecture

Scantron form 4521 for written exam
#2 pencil
20 multiple choice
7 other

Terms
CPU
Motherboard
Expansion slots
NIC
OS

Review Grid

1 Basics  2 Memory  3 Software
4 System  5 Bits & Bytes  6 Programming
6 Misc  7 Database

List the four main functions performed by a computer.
A Computer

- Accepts input
- Processes data
- Stores the results of processing
- Provides output

(True or False) Arithmetic operations are carried out by CMOS  **FALSE**

---

Protocol is a set of rules ensuring orderly and accurate transmission and reception of data.

Channel Jeopardy

The transmission capacity of a communications channel which is measured in bits per second

**What is bandwidth?**

---

True or False

A character representation code is the same as encryption or secret codes.

The CPU is the circuitry that executes instructions and processes data.
(True or False) Storage devices are the removable media containing data files, applications, or system software. **FALSE**

What is a chip?

thin slice of crystal packed with:

- microscopic wires
- transistors
- capacitors
- resistors

**Define Software**

- Set of instructions
- Tells the computer how to perform a task

Operating system software:

- a) is the hardware & software interface
- b) runs programs
- c) manages data
- d) does all of the above

What is the difference between application software and system software?

Application software helps a person accomplish a specific task.

**Public domain** software can be freely copied, distributed, or resold.
Software Licenses

- License agreement covering an entire organization is called: **Site license**
- License agreement covering one user is called: **Single user license**

Miscellaneous 1

The _______ number system is used by computer to represent numeric data.

- a) digital
- b) analog
- c) binary
- d) ASCII

Miscellaneous 2

A collection of computers and other devices connected to share data, hardware, and software is called a **Network**.

Miscellaneous 3

The Internet:
- a) is the world’s largest computer network
- b) has connections for millions of computers all over the world
- c) includes the Web
- d) all of the above

Miscellaneous 4

True or False:
You can reduce virus risks on your computer by not opening email attachments from unknown sources.

Executable files or data files contain the instructions (ones and zeros) that tell a computer how to perform a task.
Database Jeopardy
The process of analyzing data to create the most efficient database structure.
What is normalization?

Database Jeopardy 2
In a database the fields of data that pertain to a single entity.
What is a record?

(True or False)
Database files are executable files.
False

Applications 4
Software can be used to:
- a) Create documents
- b) Edit financial data
- c) Manipulate images
- d) Digitize sound
- e) All of the above

Applications 5
Step-by-step guides for creating preformatted documents and worksheets are called wizards.

How much space is on a 3-1/2” HD floppy disk? 1.44 MB
RAM memory is measured in \[ \text{MB} \].

Do you understand?

- Kilobyte (KB): 1,024 bytes
- Megabyte (MB): 1,048,576 bytes
- Gigabyte (GB): 1,073,741,824 bytes

Megahertz (MHz)
Gigahertz (GHz)

Measure of frequency

---

How many bytes?
Welcome Spring! = \( 15 \) bytes
How many bits? \( 15 \times 8 = 120 \)

---

How many different units of information can a 4 bit computer display?

\[ 2^4 \text{ or } 16 \]

---

Binary Table

<table>
<thead>
<tr>
<th>8</th>
<th>2^3</th>
<th>4</th>
<th>2^2</th>
<th>2^1</th>
<th>2^0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>1</td>
<td>= 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>=12</td>
<td></td>
</tr>
</tbody>
</table>

---

The binary number 11001 = ____ , in decimal.

a) 18
b) 24
c) 25

d) none of the above
Expressions

Let A=2, B=3, C=4

\[(B + 5) - 8 / A = 4\]

Programming Terms

- Algorithm
- Flow chart
- Pseudocode

Know how to draw a flow chart

<table>
<thead>
<tr>
<th>Calculate Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
</tr>
<tr>
<td>no</td>
</tr>
<tr>
<td>&gt;100</td>
</tr>
<tr>
<td>Print Not Valid</td>
</tr>
</tbody>
</table>

Languages

Assembly
QBASIC
C++
Java

Which are high-level languages?

Memory or Disk Storage?

Primary storage linked directly to the processor is called **memory**.

Language Jeopardy

A set of commands used to direct the computer to create databases, locate information, sort records, and change the data in those records.

What is a query language?
Match Memory Types

- RAM
- Virtual
- ROM
- CMOS
- Battery
- Permanent
- Disk Based
- Temporary

Memory

RAM is:

- a) Temporary storage for data waiting to be processed
- b) Moved to the hard drive when the computer is turned off
- c) All of the above

A copyright is a form of legal protection that grants the copyright owner exclusive rights to _______ the software.

- a. copy
- b. distribute or sell
- c. modify
- d. all of the above

A megabyte is:

- a) Approx. 1,000,000 bytes
- b) Larger than 10 kilobytes
- c) 1,048,576 bytes
- d) smaller that a gigabyte
- e) all the above