

The American University in Cairo
Computer Science & Engineering Department
CSCE 106-03&04&09

Dr. KHALIL	Quiz-I	Fall 2012
Last Name :		ID:
First Name:		Form - I

Solve Question 1 and only 3 out of the other questions

- * Do not turn this page until asked to do so.
- * Exam time is **30** minutes.
- * Put the answers on the same question sheet, do not use any additional papers, even for scratch.
- * Write your name, ID, section no. in the indicated places.
- * Read the exam instructions.
- * Read the honesty policy.
- * Sign the following statement.

Academic Integrity Policy

Cheating in Exams is a violation of the Academic Integrity policy of AUC. Whispering, talking, looking at someone else's paper, or copying from any source is considered cheating. Any one who does any of these actions or her/his answers indicates that she/he did any of them, will receive a punishment ranging from zero in this exam to failing the course. If repeated, it may lead to dismissal from AUC.

I have read the honesty policy and exam instructions and I am presenting this exam as entirely my effort.

Signature: _____

DO NOT USE THIS SECTION

Question	Points	Grade
1	20	
	10	
	10	
	10	
Total	50	

QUESTION 1 (20 points)

1. Convert the following to the base indicated:

$$(77)_{10} = (\quad)_{2}$$

$$(1011001100)_2 = (\quad)_{10}$$

$$(10000000)_2 = (\quad)_{10}$$

$$(1111111)_2 = (\quad)_{10}$$

(182)₁₀ = ()₂

2. Add $(69)_{10}$ to $(28)_{10}$ in binary format.

3. One bit can have two values, 0 or 1. A combination of 2 bits can have values 00, 01, 10, 11. List the values you can have with 3 bits. Write a formula that tells you how many values you can have with n bits.

Values you can have with 3 bits	Number of values you can have with n bits

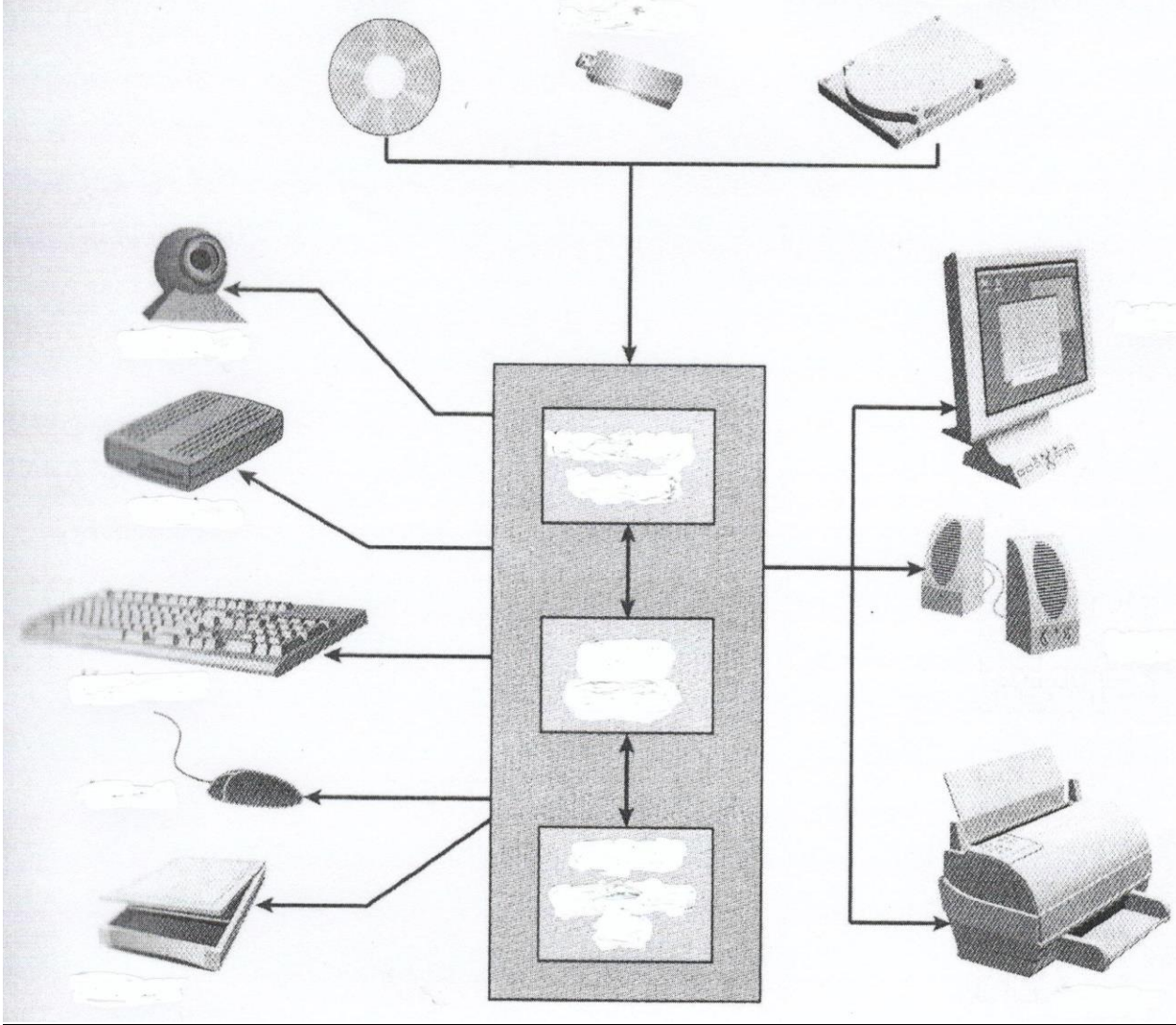
Question 2 (10 points)

Tick only the best correct answer for each of the following:

- 1) Internet is:
 - a. A collection of computers and other hardware devices that are connected together to share hardware, software, and data. []
 - b. A system that uses satellites and a receiver to determine the exact geographic location of the receiver []
 - c. Worldwide network of computers connected together through a standard network protocol known as Transmission Control Protocol/Internet Protocol, or TCP/IP. []
 - d. A computer that provides resources to other computers in a network []
- 2) The software that controls and manages the computer resources is:
 - a. Source program []
 - b. Operating System []
 - c. Web browser []
 - d. Operating Procedure []
- 3) The part of the computer that temporary stores programs and data to be processed is:
 - a. The CPU []
 - b. ROM []
 - c. RAM []
 - d. ALU []
- 4) A web browser is:
 - a. Software that controls a user's interaction with the computer hardware []
 - b. A graphical user interface that allows users to navigate through the web []
 - c. A software that enables users to edit web pages []
 - d. A computer that provides resources to other computers in a network []
- 5) Von Neumann architecture is:
 - a. A stored-program computer []
 - b. An architecture of CPU []
 - c. An architecture for RAM []
 - d. All the above []
- 6) Computer virus is:
 - a. Violation of copyright agreements []
 - b. Code disrupting the computer operations and erasing information []
 - c. A Computer theft or computer fraud []
 - d. A biological disease causing malfunctioning of the computer []
- 7) The Central Processing Unit (CPU) is composed of:
 - a. RAM & ROM []
 - b. Control Unit (CU) & Arithmetic/Logic Unit (ALU) []
 - c. Main Memory & Registers []
 - d. none of the above []
- 8) In binary: $1011 + 1011 = ?$
 - a. 10100 []
 - b. 10110 []
 - c. 11011 []
 - d. None of the above []
- 9) Microprocessor is
 - a. A web browser []
 - b. A CPU on one silicon chip and contains millions of tiny transistors []
 - c. A system clock []
 - d. None of the above []
- 10) Compiler is:
 - a. Software that controls a user's interaction with the computer hardware []
 - b. A graphical user interface that allows users to navigate through the web []
 - c. A software that translates a high-level language program into machine language []
 - d. A computer that provides resources to other computers in a network []

Question 3 (10 points)

a. Name on the following figure the main components of a typical computer system:



b. Circle the word or phrase that completes each statement:

1. Which type of software is used for creating slide show?
a. Web design software b. presentation software c. word processing software d. spreadsheet software
2. A computer program is a collection of _____ that are carried out by the computer's CPU.
a. instructions b. loops c. steps d. algorithms
3. _____ programming languages use familiar words rather than the detailed strings of 0s and 1s that make up machine instructions.
a. machine b. assembly c. high-level d. All
4. A _____ is someone who uses a computer and a network or Internet connection to intrude into another computer or system to perform illegal act.
a. hacker b. programmer c. terrorist d. spammer
5. _____ is the violation of copyright agreements by illegally copying software for use in another computer.
a. cheating b. spam c. software piracy d. hacking

QUESTION 4 (10 points)

- a. Determine whether each characteristic below applies to main memory or secondary (external) storage memory: (a) Faster to access, (b) Volatile, (c) May be extended almost without limit, (d) Less expensive, (e) Used to store data and program files permanently, (f) CPU accesses it to obtain the next machine language instruction for execution.

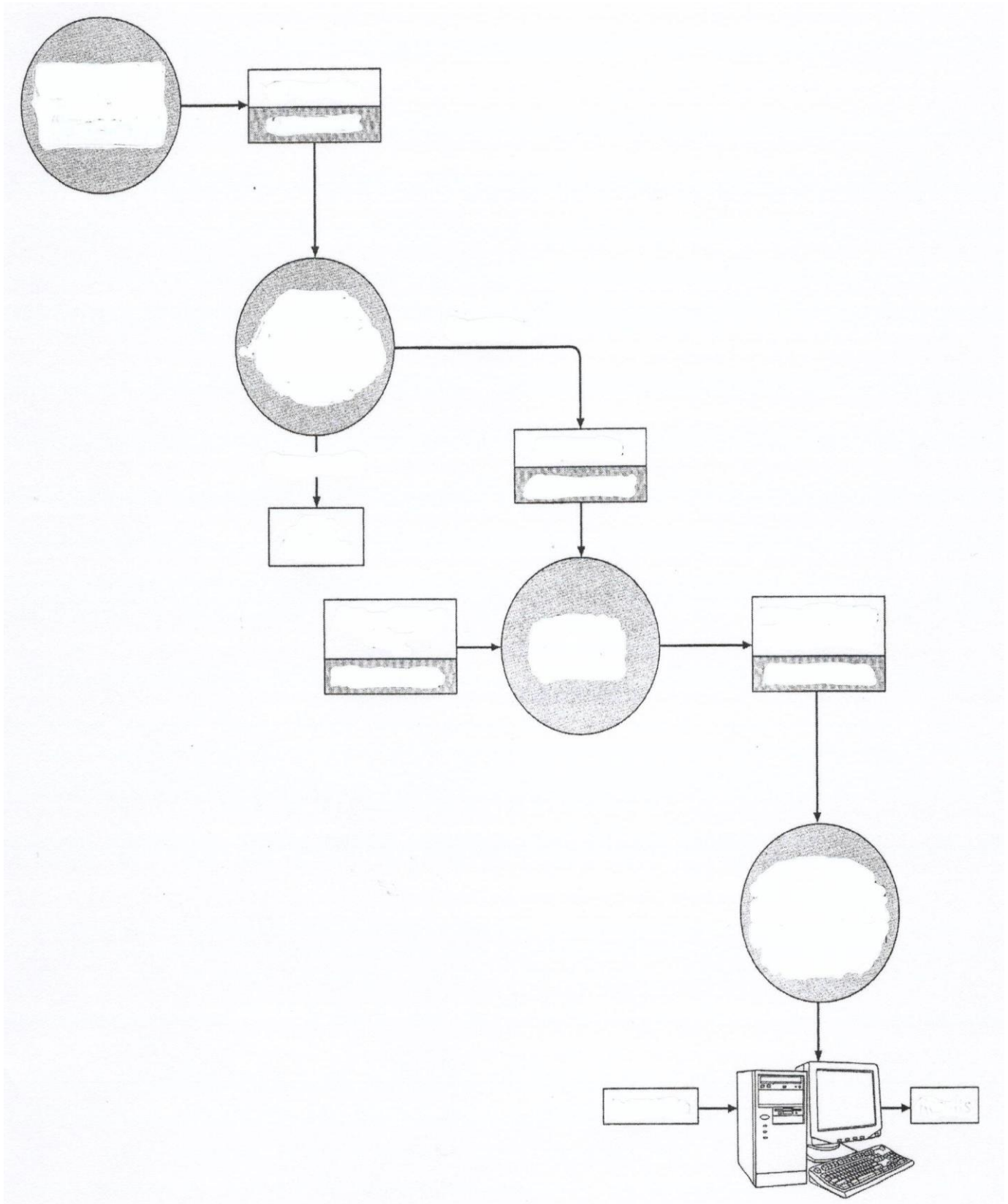
Main Memory	Secondary Storage Memory

- b. Match the following terms with their definitions:.

1. Machine Language	☐ The unauthorized copying of a computer program.
2. Assembly Language	☐ The machine language version of a source program.
3. Assembler	☐ Allows computer users to locate and view multimedia-based documents (i.e., documents with text, graphics, animations, audios or videos) on almost any subject.
4. Compiler	☐ Worldwide computer networks connected together through a standard internetworking protocol known as Transmission Control Protocol/Internet Protocol, or TCP/IP.
5. Source Program	☐ The language, made up of binary coded instructions, that is used directly by the computer.
6. Object Program	☐ A program written in high-level programming language.
7. World Wide Web	☐ An interconnected collection of computers that share resources.
8. Internet	☐ A program that translates an assembly language program into machine code.
9. Software Piracy	☐ A program that translates a high-level language into machine code.
10. Computer Network	☐ A low-level programming language in which a mnemonic is used to represent each of the instructions for a particular computer.

QUESTION 5 (10 points)

Name on the following figure the steps of processing a high-level program on a computer. Name also the components that are involved in such processing:



Good Luck