Quiz 2_Ch 5-Ch 8 (password:2121)

Due Oct 16 at 11:59pm **Points** 10 **Questions** 40
Available Oct 10 at 8am - Oct 16 at 11:59pm **Time Limit** 90 Minutes

Instructions

You will receive 0.25 points for each calculation question;

Quiz 2 (covering the material **from chapter 5 to chapter 8**):

Once you have submitted an answer, you will not be able to change it later. You will not be able to view the previous question.

Thank you!

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	19 minutes	9 out of 10 *

* Some questions not yet graded

⚠ Correct answers are hidden.

Score for this quiz: **9** out of 10 *
Submitted Oct 16 at 6:36pm
This attempt took 19 minutes.

Question 1 — 0.25 / 0.25 pts

Question: Please refer to this table of op codes for this question

Opcode	Definition
0	Halt
1	ADD
2	SUBTRACT
3	STORE
5	LOAD
6	BRANCH UNCONDITIONALLY
7	BRANCH ON ZERO
8	BRANCH ON POSITIVE
901	INPUT
902	OUTPUT

Please refer to this table of Mailboxes and Contents for this question

Mailbox	Contents	
00	505	
01	106	
02	507	
03	902	
04	000	
05	1	DAT
06	3	DAT
07	6	DAT

What is the value in the **calculator** after the first instruction (505) is completed?

- 6
- 2
- 3
- 1

Question 2

0.25 / 0.25 pts

Question: Please refer to this table of op codes for this question

Opcode	Definition
0	Halt
1	ADD
2	SUBTRACT
3	STORE
5	LOAD
6	BRANCH UNCONDITIONALLY
7	BRANCH ON ZERO
8	BRANCH ON POSITIVE
901	INPUT
902	OUTPUT

Please refer to this table of Mailboxes and Contents for this question

Mailbox	Contents

00	505	
01	106	
02	507	
03	902	
04	000	
05	1	DAT
06	3	DAT
07	6	DAT

What is the value in the **program counter (instruction location counter)**after the first instruction (505) is completed?

- 03
- 01
- 04
- 02

Question 3

0.25 / 0.25 pts

Question: Please refer to this table of op codes for this question

Opcode	Definition
0	Halt
1	ADD

2 SUBTRACT

3 STORE

5 LOAD

6 BRANCH UNCONDITIONALLY

7 BRANCH ON ZERO

8 BRANCH ON POSITIVE

901 INPUT

902 OUTPUT

Please refer to this table of Mailboxes and Contents for this question

Mailbox	Contents	
00	505	
01	106	
02	507	
03	902	
04	000	
05	1	DAT
06	3	DAT
07	6	DAT

What is the value in the **calculator** after the fetch but before the execute portion of second instruction (106)?

- 6
- 2

- (•) 1
- ( ) 3

Question 4

0.25 / 0.25 pts

Question: Please refer to this table of op codes for this question

Opcode	Definition
0	Halt
1	ADD
2	SUBTRACT
3	STORE
5	LOAD
6	BRANCH UNCONDITIONALLY
7	BRANCH ON ZERO
8	BRANCH ON POSITIVE
901	INPUT
902	OUTPUT

Please refer to this table of Mailboxes and Contents for this question

Mailbox	Contents
00	505
01	106
02	507

03	902	
04	000	
05	1	DAT
06	3	DAT
07	6	DAT

What is the value in the **calculator** after the second (106) instruction is completed?

- 4
- 2
- 6
- 1

Question 5

Not yet graded / 0.25 pts

Representations for Signed Integers

The 9’s complementary representation.

What is the sign-and-magnitude value of the three-digit number represented in 9’s complement by 747?

Your Answer:

Numbers 500 to 998 are negative in 9's complement, hence the complement is as follows:
999-747 = 252
Change sign; the solution is -252

Question 6

Not yet graded / 0.25 pts

Representations for Signed Integers

Two's complement

Find the 2’s complementary representation in 8-bits of the number -51.

Your Answer:

Step 1: The binary for 51 using 8 bits is 00110011.
Second step: flip the bits 11001100.
Third step: add 1: 11001101

Question 7

Not yet graded / 0.25 pts

Representations for Signed Integers

Two's complement

Find the 2’s complementary representation in 16-bits of the number -331.

Your Answer:

Step 1: The 16-bit binary representation of 331 is 0000 0001 0100 1011.
Flip the bits in step two: 1111 1110 1011 0100
Add 1 in step three, 1111 1110 1011 0101.

Question 8

Not yet graded / 0.25 pts

Section 5.3 Real Numbers

Convert 55698799 in SEEMMMMM to a decimal integer without exponents.

Your Answer:

5 = S; sign is negative
56 = EE; exponent is 6
98799 = MMMMM
- .98799 x 10^6 = -987990.

Question 9

0.25 / 0.25 pts

The use of fixed-length, fixed-format instruction words with the op code and address fields in the same position for every instruction would allow instructions to be fetched and decoded

- independently and in general purpose
- independently
- independently and in serial
- (•) independently and in parallel

Question 10

0.25 / 0.25 pts

There are several factors that determine the number of instructions that a computer can perform in a second. Which of the following is NOT a factor?

- Instruction format - fixed or variable
- Number of steps required by each instruction type
- (•) Word size
- Clock speed

Question 11

0.25 / 0.25 pts

Overlapping instructions—so that more than one instruction is being worked on at a time—is known as the

- assembly line method
- conveyor belt method.
- accelerator method.
- pipelining method.

Question 12

0.25 / 0.25 pts

Which of the following is not a specific execution unit?

- LOAD/STORE unit
- floating point arithmetic unit
- steering unit
- integer arithmetic unit

Question 13

0.25 / 0.25 pts

Out-of-order instruction execution can cause problems because a later instruction may depend on the results from an earlier instruction. This situation is known as a _____ or a _____.

- risk, reliance
- risk, risk
- risk, stable
- hazard, dependency

Question 14

0.25 / 0.25 pts

Some systems provide a small amount of dedicated memory built into the CPU that maintains a record of previous choices for each of several branch instructions that have been used in the program being executed to aid in determining whether a branch is likely to be taken. What are the contents of this memory called?

- branch prediction table

- future speculation table
- branch history table
- look-ahead table

Question 15

0.25 / 0.25 pts

What is the major drawback of Dynamic RAM (DRAM)?

- cost
- capacity
- data loss
- memory latency

Question 16

0.25 / 0.25 pts

Which of the following is a commonly used approach for improving performance of memory?

- Compressing instructions and data in RAM.
- Using DRAM instead of SDRAM.
- Doubling the capacity of memory.
- (selected) Widening the system bus between memory and the CPU.

Question 17

0.25 / 0.25 pts

Each block of cache memory provides a small amount of storage, perhaps between 8 and 64 bytes, also known as

- a cache hit.
- (selected) a cache line.
- a small block cache.
- niche cache.

Question 18

0.25 / 0.25 pts

What does "locality of reference" mean?

- most memory references will be accessed in a predictable order
- most memory references are confined to two or a no regions of memory
- most memory references are confined to one or a few small regions of memory
- most memory references will pull data of numeric type

Question 19

0.25 / 0.25 pts

Cache memory hit ratios of _____ percent and above are common with just a small amount of cache.

- 80
- 60
- 30

- 90

Question 20

0.25 / 0.25 pts

Which of the following is most likely:

- L1 cache has 1MB and L2 cache has 32KB
- L1 cache has 32KB and L2 cache has 1MB
- L1 cache has 16MB and L2 cache has 1MB
- L1 cache has 64KB and L2 cache has 32KB

Question 21

0.25 / 0.25 pts

In a superscalar CPU, the instruction unit has a(n) ____ to hold instructions until the required type of execution unit is available.

- cache memory
- assembly unit

- instruction set
- pipeline

Question 22

0.25 / 0.25 pts

Each CPU in the processor, within a single integrated chip, is called a _____

- CPU unit.
- control unit.
- core.
- Independent Processor Chip (IPC).

Question 23

0.25 / 0.25 pts

In Symmetrical Multiprocessing (SMP)each CPU has_____.

identical access to the I/O, only

identical access to the operating system, and to all system resources, including memory.

identical access to the operating system, I/O and memory

identical access to memory.

Question 24

0.25 / 0.25 pts

The LOAD instruction copies data from the_____.

mailbox to the calculator.

in basket to a mailbox.

in basketto the calculator.

calculator to a mailbox.

Question 25

0.25 / 0.25 pts

The STORE instruction copies data from the_____.

- inbasket to a mailbox.
- calculator to a mailbox.
- mailbox to the calculator.
- in basketto the calculator.

Question 26

0.25 / 0.25 pts

The ADD instruction adds data from_____.

- a mailbox to the calculator.
- the in basket to a mailbox.
- a mailbox to the in basket.
- one mailbox to another mailbox.

Question 27

0.25 / 0.25 pts

The SUBTRACT instruction subtracts data in_____.

- the calculator from a mailbox.
- the in basketfrom a mailbox.

one mailbox from another mailbox.

a mailbox from the calculator.

Question 28

0.25 / 0.25 pts

The INPUT instruction takes data from the_____.

in basket and places it in a mailbox.

mailbox and places it in the in basket.

mailbox and places it in the calculator.

in basket and places it in the calculator.

Question 29

0.25 / 0.25 pts

The OUTPUT instruction takes data from the_____.

out basket and places it in the calculator.

calculator and places it in the out basket.

out basket and places it in a mailbox.

mailbox and places it in the out basket.

Question 30

0.25 / 0.25 pts

_____is the registers holding addresses only

- No answer text provided.
- MAR and PC
- MDR
- Accumulator

Question 31

0.25 / 0.25 pts

A LOAD command will leave the original data in the mailbox_____.

- corrupted.
- deleted.
- overwritten.
- unchanged.

Question 32

0.25 / 0.25 pts

Simultaneous thread multiprocessing (STM) is also known as _____

- concurrent threading
- hyperthreading
- expert threading
- superthreading

Question 33

0.25 / 0.25 pts

The BRANCH UNCONDITIONALLY instruction changes the value in the_____.

- mailbox.
- out basket.
- program counter (also called instruction location counter).
- calculator.

Question 34

0.25 / 0.25 pts

The BRANCH ON POSITIVE instruction "jumps" if the value in the_____.

- mailbox is positive.
- instruction location counter is positive.
- calculator is positive.
- in basket is positive.

Question 35

0.25 / 0.25 pts

The LMC knows which mailbox contains the next task by looking at the_____.

- calculator.
- current mailbox.
- in basket.
- program counter (instruction location counter).

Question 36

0.25 / 0.25 pts

(VII.II) The storage locations that are used for a particular defined purpose within the CPU are called_____.

- RAM
- storage
- registers
- the bus

Question 37

0.25 / 0.25 pts

If the Memory address register is 8 bits wide, the number of possible memory addresses is

- 64
- 256
- 8
- 16

Question 38

0.25 / 0.25 pts

The different ways of establishing memory addresses within an instruction are called_____.

- (•) addressing modes.
- ( ) MDR codes.
- ( ) MAR codes.
- ( ) programmable modes.

Question 39

0.25 / 0.25 pts

The register that will hold the data value that is being transferred between the CPU and a particular memory location is called the_____.

- ( ) MAR.
- ( ) PC.
- (•) MDR.
- ( ) ALU.

Question 40

0.25 / 0.25 pts

What is a "thread"?

- (•) Independent segments of programs available to be executed in parallel
- ( ) The same segment of code used by many programs
- ( ) The set of all variables that are used by all programs in execution
- ( ) Shared allocation of cache memory used by programs available to be executed

Quiz Score: **9** out of 10