



Advance Computer Architecture(CS 501)
Assignment Solution # 01
FALL 2022

Total marks = 20
Deadline
15th of DEC, 2022

Please carefully read the following instructions before attempting the assignment Solution.

NOTE

Don't copy-paste the same answer.

Make sure you can make some changes to your solution file before submitting copy paste solution will be marked zero.

If you found any mistake then correct yourself and inform me.
Before submitting an assignment/GDB check your assignment requirement file.

For any query, feel free to Contact at Whatsapp:
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Provide by M.JUNAID QAZI

Student id:

Q.No.1

Write the equivalent assembly language instructions for the given machine language instructions. Write all the conversion steps for all instructions sequence wise.

Sr #	Machine Language Instruction	Equivalent Assembly Language Instruction
1	E1C60004 h	
2	61885000 h	
3	724E8000 h	
4	1A4000D4 h	
5	084000D0 h	

Solution:

Step: 1

Sr #	Given instruction in hexadecimal	Equivalent instruction in binary
1	E1C60004 h	1110 0001 1100 0110 0000 0000 0000 0100
2	61885000 h	0110 0001 1000 1000 0101 0000 0000 0000
3	724E8000 h	0111 0010 0100 1110 1000 0000 0000 0000
4	1A4000D4 h	0001 1010 0100 0000 0000 0000 1101 0100
5	084000D0 h	0000 1000 0100 0000 0000 0000 1101 0000

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Step: 2

Sr #	Given instruction in hexadecimal	Op-code field	mnemonic
1	E1C60004 h	1110 0 b	shl
2	61885000 h	0110 0 b	add
3	724E8000 h	0111 0 b	sub
4	1A4000D4 h	0001 1 b	st
5	084000D0 h	0000 1 b	ld

Step: 3

Sr #	Given instruction in hexadecimal	mnemonic	Instruction type
1	E1C60004 h	shl	C
2	61885000 h	add	D
3	724E8000 h	sub	D
4	1A4000D4 h	st	C
5	084000D0 h	ld	C

Step: 4

Sr #	Machine Language Instruction	Equivalent Assembly Language Instruction
1	E1C60004 h	Shl R7, R3, 4
2	61885000 h	Add R6, R4, R5
3	724E8000 h	sub R9, R7, R8
4	1A4000D4 h	st R9, z
5	084000D0 h	ld R1, c

Every assignment/GDB is change due to unique Student ID so Don't

Copy That is truly perfect step by step idea solution get help easily.

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