

Assignment Extra sheet

1-

a) system software: is a type of computer program that is designed to run a computer's hardware and Application programs. (programs implemented to make computer hardware usable).

Example: OS, BIOS, The Boot programs, Assembler

b) compiler: is a translator which converts the high Level Language into Low Level Language
Ex: (C++ compiler, Java compiler).

2- system software

is the type of software which is the interface between application software and system.

* Low Level Languages are used to write the system software

* is used for operating computer hardware.

* Ex: compiler, assembler, debugger, driver, etc.

Application software

is the type of software which is built for specific tasks.

* High Level Languages are used to write Application software

* is used by user to perform specific task.

* web browser, media player, WhatsApp, etc

[3]	LDA	VALUE	
	STA	GAMMA	
	VALUE	WORD	15
	GAMMA	RESW	1

[4]	LDA	#65	
	STA	DELTA	
	DELTA	RESW	1

[5]	LDA	ALPHA	
	MUL	BETA	
	ADD	TEN	
	STA	GAMMA	
	ALPHA	RESW	1
	BETA	RESW	1
	GAMMA	RESW	1
	TEN	WORD	10

[6]	LDA	ALPHA	
	LDS	BETA	
	MUL	S, A	
	ADD	#10	
	STA	GAMMA	
	ALPHA	RESW	1
	BETA	RESW	1
	GAMMA	RESW	1

7 LDA ZERO

COPY LDCH STR1, X
STCH STR1, X
TIX ELEVEN
JLT COPY

~~STR1, RESB~~
~~STR1, RESB~~

STR1 BYTE C'Hello world'

STR2 RESB 11

ZERO word 0

ELEVEN word 11

8 LDA #0

COPY LDCH STR1, X
STCH STR1, STR2
TIX #11
JLT COPY

STR1 BYTE C'COPY STRING'

STR2, RESB 11

- 9) a - Symbol table
b - opcode table
c - Location Counter

10) a) ~~cause it doesn't address~~

b) cause The operand is not a memory,
Relative and immediate addressing doesn't need to
modified.

11) a) false, Assembler doesn't know, we need to
state the start location

b) false, Direct addressing only

c) True

d) True

e) false, it's created at the end of the
program