

① Define

a) System Software: the Programs implemented that makes the Computer hardware usable, it focuses on apps or Problems to be solved without internally details
ex BIOS

b) Compiler: it Converts the source code program into machine code before Program execution.
its result is an object code.

② Compare System Software

Application Software

* Programs assist the operation of a computer.

* Programs developed for a specific goal

* runs automatically once the system is turned on.

* runs when user requests it.

* machine dependent

* machine independent.

* ex BIOS

* ex media player & adobe reader.

③

LDA

FIFTEEN

JTA

GAMMA

:

:

:

:

FIFTEEN WORD

15

GAMMA RESH

1

④ Immediate → direct. $i=1, n=0$ SIC/Xe

LDA #65
STCH DELTA

DELTA RESB 1

ASCII code of A
as it store one character

⑤ LDA ALPHA
MUL BETA
ADD TEN
JTA GAMMA

TEN WORD 10
ALPHA RESW 1
BETA RESW 1
GAMMA RESW 1

⑥ LDS ALPHA

LDA BETA

ADDR S, A

~~ADD~~ SUB #6

JTA GAMMA

SIC/Xe

register-to-register instructions

ALPHA RESW 1
BETA RESW 1
GAMMA RESW 1

SIC

⑦

LOX ZERO
COPY LDCH STR1,X
STCH STR2,X
TIX ELEVEN
JLT COPY
:

ZERO WORD 0

ELEVEN WORD 11

STR1 BYTE C'HELLO WORLD'

STR2 RESB 11

⑧

3IC/xe

LDI #11

LDX #0

COPY LDCH STR1,X

STCH STR2,X

TIXR T

JLT COPY
:

; Increment & compare with register T

STR1 BYTE C'COPY STRING'

STR2 RESB 11

9 Scientific term

(a) Symbol table (SYMTAB)

(b) Operation Code table (OPTAB)

(c) Location Counter (LOCCTR)

10 GIVE REASON

a. Because the address field to be modified may not occupy an integral number of bytes.

~~as its address~~
~~because its number can be~~

b. The instruction operand isn't a memory address (format 1 & 2) or specified using PC or base relative addressing

11 true or False? and why?

a. False, as it depends on the address ^{assigned to the} ~~of the~~ function

b. False, no modification is needed bec operand is specified using PC or base relative addressing, as no matter where the program is loaded the operand will be ~~away~~ displacement - bits away.

c. False, as it doesn't need addressing.

d & e Literals