

1)

Q) Program used for functioning the computer system

Q) system software that converts a source language program into an equivalent target language program

2)

- | | |
|--|--|
| Application software | system software |
| • written by individual user | • written by the manufacturer or system administrator |
| • written for particular computational requirement | • written to maintain the system and make it user-friendly |
| • its level is far from hardware level | • Its level is very close to hardware level |

3) LDA Value
 STA GAMMA
 value word 13
 GAMMA RESW 1

4) LDA # 65
 STA DELTA
 DELTA RESW 1

5) LDA ALPHA
 mul BETA
 ADD TEN
 STA GAMMA
 ALPHA RESW 1
 ALPHA RESW 1
 BETA RESW 1
 GAMMA word 10
 TEN

6) LDA ALPHA
 LD 5 BETA
 mul S, A
 ADD # 10
 STA GAMMA
 ALPHA RESW 1
 BETA RESW 1
 GAMMA RESW 1

7) LDA	ZERO
LDCH	STR, X
STCH	STR, X
TI X	ELEVEN
T LT	COPY
STR ₁	Byte C'Hello world'
STR ₂	STR RESB 11
ZERO	word 0
ELEVEN	B word 11

8) LDA	#0
LDCH	STR, X
STCH	STR, STR ₂
TI X	#11
T LT	COPY
STR ₁	Byte C'copy string'
STR ₂	RESB 11

9) a) symbol table b) opcode table c) location ^{counter} ~~table~~

10) Cause the operand isn't a memory Relative and immediate addressing doesn't need to be modified

11) a) F, we need to state start location

b) F, Direct addressing only

c) T

d) T

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