a)The .ORIG pseudo-op is translated into machine instruction: False b)Assembly Languages are more user friendly than high level languages: False c)Normally the values of symbol table entries generated by .EXTERNAL are resolved in the second pass of the assembler: True d)The system control block or the trap vector table is a set of memory locations which contain the starting addresses of the service routines: True e)Invoking a subroutine automatically saves R7, which holds the return address: True f) At any point there are as many frames in the stack as there are pending subroutines (including main): True g) The opcode of the service routine PUTS is the same as that of the Trap Instruction: True h) The LC-3 uses special Memory-Mapped I/O to communicate with I/O Devices: True i) A computer has 16 bit address space. A[15:0]. If all addresses having bits A[15:13] = 111 are reserved for I/O device registers, then the maximum number of actual word addressable memory locations is 2^16 - 2^14 ::::: (2^3 - 1)2^13 = 2^16 - 2^13 :::: FALSE j) A NOOP is an assembly language instruction (Not necessarily in LC3\_ that does nothing beyond being a place holder: True k) The location counter is initialized using the .ORIG assembler directive: True l) The location counter for an assembly program is used during the execution of the program to keep track of the location of each instruction: False m)The .BKLW initializes the space it allocates? : False n) The result of the linker program is the executable: True o) Once a program reads a character from the KBDR, automatically KBSR[15] is 0

Addressing Modes: LEA = Immediate, LDR = Base + offset, LD = PC-Relative, LDI = Indirect, ST = PC-Relative, STR = Base + Offset, STI = Indirect.