1. complete
2. complete
3. complete
4. complete
5. complete
6. 256, it is 8 bits
7. subroutines
8. using memory addresses to access I/O devices
9. You have to wait for a response before you can continue doing anything, chess
10. You can do something as you are waiting for a response, Starcraft 2
11. The status register tells you when you have data from the input/output device, the data register tells you where that data is. The user types the character "q", the status register lets you know that the user typed something, and the data register tells you where the character "q" is.
12.   .ORIG x3000
    a.   LD   R2, TERM ; Load –'7'
    b.   LD   R3, DIFF ; Load ASCII difference
    c.   LD   R4, HIGH ; Load -91
    d.   LD   R5, LOW   ; Load -64
    e. AGAIN   TRAP x23   ; Request keyboard input
    f.   ADD R1, R2, R0 ; Test for terminating character
    g.   BRz EXIT
    h.
    i.   ADD R1, R4, R0
    j.   BRn TEST
    k.   BRnzp EXIT
    l.
    m. TEST   ADD R1, R5, R0
    n.   BRp GOOD
    o.   BRnzp EXIT
    p.
    q. GOOD   ADD R0, R0, R3 ; Change to lowercase
    r.   TRAP x21   ; Output to the monitor
    s.   BRnzp AGAIN   ; ... and do it again!
    t.
    u. EXIT   TRAP x25   ; Halt
    v.
    w. TERM   .FILL xFFC9   ; FFC9 is negative of ASCII 7
    x. DIFF   .FILL x0020   ; ASCII upper/lower difference
    y. HIGH   .FILL xFFA6   ; FFA6 is -91
    z. LOW   .FILL xFFC0   ; FFC0 is -64
    aa.   .END
13. Tests whether the number input is prime or composite
14. A
    a. ADD R1, R1, #1

b. HALT
c. ADD R2, R2, #-1
d. ADD R0, R0, #5