Homework 7

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试卷得分 4

1. 9.6 What problem could occur if a program does not check the ready bit of the KBSR before reading the KBDR?

   9.10 What problem could occur if the display hardware does not check the DSR before writing to the DDR?

简答题 (2 分) 0 分

a. if the ready bit of KBSR is 1,the data that in the KBDR couldn't read by the processor. So, if a program does not check the ready bit of the KBSR before
reading the KBDR, user's data couldn't read ,and lost.
b. if the ready bit of DSR is not check ,the data couldn't write in the DDR, and the display hardware is an output device, So, could not write to the DDR

教师评语:
a的现象和解释都不对，b的解释也有问题

2. 9.12 Adam H. decided to design a variant of the LC-3 that did not need a keyboard status register. Instead, he created a readable/writable keyboard data and status register (KBDSR), which contains the same data as the KBDR. With the KBDSR, a program requiring keyboard input would wait until a nonzero value appeared in the KBDSR. The nonzero value would be the ASCII value of the last key press. Then the program would write a zero into the KBDSR, indicating that it had read the key press. Modify the basic input service of Section 9.2.2 to implement Adam's scheme.

```
1  START       LDI     R1, A
2              BRzp    START
3              LDI     R0, B
4              BRnzp   NEXT_TASK
5
6  A           .FILL   xFE00
7  B           .FILL   xFE02
```

简答题 (2 分) 2 分

```
START   LDI     R0,A;
          BRZ    START;
          AND R1,R1,#0;
          STI R1,A;
          BR NEXT_TASK;

A         .FILL       xFE00
B.        .FILL       xFE02
```

3. 9.14 An LC-3 Load instruction specifies the address xFE02. How do we know whether to load from the KBDR or from memory location xFE02?

简答题 (2 分) 0 分

we don't care the date load from KBDR or 0xFE02, because for user ,the KBDR is the same as 0xFE02, because the KBSR is mapping to oxFE02, so we don't need to know.

4. 9.42 Suppose the keyboard interrupt vector is x34 and the keyboard interrupt service routine starts at location x1000. What can you infer about the contents of any memory location from the above statement?

简答题 (2 分) 2 分

the location x0134 has contained the address x1000,and the program will continued process.