

#### 4.3 15分

The program counter does not maintain a count of any sort. The value stored in the program counter is the address of the next instruction to be processed. Hence the name Instruction Pointer is more appropriate for it.

答案里提到counter更倾向于是数字，而pointer更倾向于是指针即可，其他描述如果不准确酌情扣1-5分，如果只是对两个名字做了翻译而没有进行分析扣10分

#### 4.8 15分

- 8bits
- 7bits
- 3bits

每个小问5分

#### 4.9 5分

PC Increment

只要提到PC要自增/加一即可

#### 4.19 15分

- MAR: x2    MDR: 01010000
- MDR: 00111001

每个小问5分

#### 5.1 20分

##### (a) ADD

- operate
- register addressing for destination and source 1
- register or immediate addressing for source 2

##### (b) JMP

- control
- register addressing

**(c) LEA**

- data movement
- immediate addressing

**(d) NOT**

- operate
- register addressing

每一条3分，从20分起扣，扣完为止，ADD指令需要写出两种ADD的寻址模式

**5.4 15分**

- 8bits
- 6bits
- 6

每一条5分

**5.9 15分**

- (a) `Add R1, R1, #0` => differs from a NOP in that it sets the CC's.
- (b) `BRnzp #1` => Unconditionally branches to one after the next address in the PC. Therefore no, this instruction is not the same as NOP.
- (c) `Branch` that is never taken. Yes same as NOP.

每一条5分，每一题说出机器码对应的汇编指令即可得3分，分析正确再得2分