1. which of the statements is correct? (Single Choice)
2. If we want to translate f=g - 10 in C statement to MIPS. Where $s0,$s1 are associated with f , g. The instruction as shown below: subi $s0, $s1, 10.
3. In order to transfer data from register to memory, we can use instruction: lw .
4. The offset we want to select an array element A[8] in a C program is 4\*8=32 bits .
5. Registers improve code density since register can use only 5 bits to determine memory location.

Ans：d

1. No subtract immediate instruction, Just use a negative constant:

addi $s0, $s1, -10

1. Instruction lw is transfer data from memory to register.
2. 4\*8=32 bytes
3. Please select the correct options.
4. It’s more difficult to access memory than register. We use base register and offset to access memory efficiently.
5. If assembly operands have been in memory, it's NOT necessary to load them to registers.
6. Even if we define a fixed and finite number of variables in high level language, the compiler may NOT use the same number of variable registers.
7. Memory alignment helps access memory more efficiently in most case.
8. To reduce the usage of hardware resources, MIPS instructions may have different length.
9. lw, sw, ..., are data transfer instructions. When we talk about load and store instructions, the direction of data flow is viewed from the aspect of register.
10. If registers are NOT full used, the least used variable can still stay in registers.

Ans：

1. T slide p.19, 20
2. F slide p.10 “assembly operands are registers”
3. T slide p14. Compiler may use intermediate temporary register in computation.
4. T slide p.27
5. F slide p.8 “Each instruction is 32 bits”
6. T Load from memory to register, store from register to memory in the aspect of register.
7. T slide p.29 “Compiler tries to keep most frequently used variables in registers”