1.

**DAA:** This instruction is used to make sure the result of adding two packed BCD numbers is adjusted to be a legal BCD number. The result of the addition must be in AL for DAA to work correctly. If the lower nibble in AL after an addition is greater than 9 or AF was set by the addition, then the DAA instruction will add 6 to the lower nibble in AL. If the result in the upper nibble of AL in now greater than 9 or if the carry flag was set by the addition or correction, then the DAA instruction will add 60H to AL.

Let AL = 27 H BCD, and AL = 35 H BCD

MOV AL,27H

MOV AL,35H

The DAA instruction updates AF, CF, SF, PF, and ZF; but OF is undefined.

2.

**CMP:**

This instruction compares a byte / word in the specified source with a byte / word in the specified destination. The source can be an immediate number, a register, or a memory location. The destination can be a register or a memory location. However, the source and the destination cannot both be memory locations. The comparison is actually done by subtracting the source byte or word from the destination byte or word. The source and the destination are not changed, but the flags are set to indicate the results of the comparison. AF, OF, SF, ZF, PF, and CF are updated by the CMP instruction.

CMP AL,000H - Compare immediate number 000H with byte in AL

**TEST:**

This instruction ANDs the byte / word in the specified source with the byte / word in the specified destination. Flags are updated, but neither operand is changed. The test instruction is often used to set flags before a Conditional jump instruction. The source can be an immediate number, the content of a register, or the content of a memory location. The destination can be a register or a memory location. The source and the destination cannot both be memory locations. CF and OF are both 0’s after TEST. PF, SF and ZF will be updated to show the results of the destination. AF is be undefined.

TEST AL,001H - AND 001H with AL. No result stored; Update PF, SF, ZF.

TEST affect the flag register.