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SUBJECT :- Microprocessor and Assembly
Language.

Department :- BS (CS)

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ASSIGNMENT Number

06.

Assignment No 6

Q1) Write a single instruction using 16-bit operands that clears the high of AX and doesn't change the low 8 bits.

Ans) AND AX, 00FFh

Q2):

A) OR ax, 0FF00h

Q3):

Ans) XOR eax, 0FFFFFFFFh

Q4):

Ans) test eax, 1; (low bit set if eax is odd)

Q5)

Ans) OR al, 00100000b

Q6)

Ans) JA, JNB, JAE, JNB, JB, JNAE, JBE, JNA

Q7)

Ans) JS, JNL, JGE, JNL, JL, JNGE, JLE, JNG

Q8)

Ans) No will the following code jump to the label or not? Target a No because the jg is used with

Signed value and (8109h is negative, and 26h is positive).

Q9) a) if ebx > ecx
x = 1

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cmp ebx, ecx
jna next
mov x, 1
next:
    
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b) if edx <= ecx
x = 1
else
x = 2

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cmp edx, ecx
jnb else
mov x, 1
jmp next
else: mov x, 2
next:
    
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Q10)

b) Bx = 0068h

Q11)

b) Bx = 092h

Q12)

b) Bx = 064338h

Q13)

Ans) Bx = A857h

Q14)
a) EBX = BFAFF69Fh

Q15)
a) KBX = 0000000050509864h

Q16)
a) AL = 2Dh + 48h + 6Fh + A3h

Q17)
a) AL = 8Sh + 34h + 8Fh + AEh

Q18)
a) a. CF = 0 2F = 0 SF = 0
b. CF = 0 2F = 0 SF = 0
c. CF = 1 2F = 0 SF = 1

Q19)
a) JECX

Q20):
a) JA/JNBE (Jump if above / jump if not below or equal)

Condition for jump:

CF=0 and 2F=0

The JA/JNBE conditional jump instruction will cause program execution to transfer to another location in a range from +127 bytes to -128 bytes from the instruction following the jump instruction if CF=0 and if 2F=0.

(both must be 0). if this condition is not true no jump occurs. When used after CMP this instruction is referring to the unsigned values of the operands used by the CMP instruction. DEBUG, Notes:

Regardless of which mnemonic is used during assembly, DEBUG always disassembles this OP code as JA [Flag affected - none].

Q21)

Ans) The final value of Cdx =

10000000, 00000000 01111111
 11111111 00000000 00000000 10000000
 00000000 = 25614