***Assignment #9***

Answer the following questions

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| BX: FA 75  CX: 31 02 | and bx, cx | BX,SF,ZF |

FA 75 = 1111 1010 0111 0101

31 02 = 0011 0001 0000 0010

0011 0000 0000 0000

After:

BX: 30 00 SF 0 ZF 0

(B)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| BX: FA 75  CX: 31 02 | or bx, cx | BX,SF,ZF |

FA 75 = 1111 1010 0111 0101

31 02 = 0011 0001 0000 0010

1111 1011 0111 0111

After:

BX: FB 77 SF 1 ZF 0

(C)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| BX: FA 75  CX: 31 02 | xor bx, cx | BX,SF,ZF |

FA 75 = 1111 1010 0111 0101

31 02 = 0011 0001 0000 0010

1100 1011 0111 0111

After:

BX: CB 77 SF 1 ZF 0



(D)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| BX: FA 75 | not bx | BX |

FA 75 = 1111 1010 0111 0101

0000 0101 1000 1010

After:

BX: 05 8A



(E)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| AX: FA 75 | and ax , 000fh | AX,SF,ZF |

FA 75 = 1111 1010 0111 0101

00 0f = 0000 0000 0000 1111

0000 0000 0000 0101

After:

AX: 00 05 SF 0 ZF 0



(F)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| AX: FA 75 | or ax , 0fff0h | AX,SF,ZF |

FA 75 = 1111 1010 0111 0101

ff f0 = 1111 1111 1111 0000

1111 1111 1111 0101

After:

AX: FF F5 SF 1 ZF 0



(g)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| AX: FA 75 | xor ax , 0ffffh | AX,SF,ZF |

FA 75 = 1111 1010 0111 0101

00 0f = 1111 1111 1111 1111

0000 0101 1000 1010

After:

AX: 05 8A SF 0 ZF 0



(i)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| CX: 8E BA | not cx | CX |

8E BA = 1000 1110 1011 1010

0111 0001 0100 0101

After:

CX: 71 45



(j)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| CX: 8E BA | or cx, 0EDF2h | CX,SF,ZF |

8E BA= 1000 1110 1011 1010

ED F2= 1110 1101 1111 0010

1110 1111 1111 1010

After:

CX: EF FA SF 1 ZF 0



(k)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| CX: 8E BA | and cx, 0EDF2h | CX,SF,ZF |

8E BA= 1000 1110 1011 1010

ED F2= 1110 1101 1111 0010

1000 1100 1011 0010

After:

CX: 8C B2 SF 1 ZF 0



(l)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| CX: 8E BA | xor cx, 0EDF2h | CX,SF,ZF |

8E BA= 1000 1110 1011 1010

ED F2= 1110 1101 1111 0010

0110 0011 0100 1000

After:

CX: 63 48 SF 0 ZF 0



(n)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| DX: B6 A3 | not dx | DX |

B6 A3= 1011 0110 1010 0011

0100 1001 0101 1100

After:

DX: 49 5C



(0)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| DX: B6 A3 | or dx, 64C8h | DX,SF,ZF |

B6 A3= 1011 0110 1010 0011

64 C8 = 0110 0100 1100 1000

1111 0110 1110 1011

After:

DX: F6 EB SF 1 ZF 0



(P)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| DX: B6 A3 | and dx, 64C8h | DX,SF,ZF |

B6 B3= 1011 0110 1010 0011

64 C8 = 0110 0100 1100 1000

0010 0100 1000 0000

After:

DX: 24 80 SF 0 ZF 0

 (q)

|  |  |  |
| --- | --- | --- |
| Before | Instruction | After |
| DX: B6 A3 | xor dx, 64C8h | DX,SF,ZF |

B6 B3= 1011 0110 1010 0011

64 C8 = 0110 0100 1100 1000

1101 0010 0110 1011

After:

DX: D2 6B SF 1 ZF 0

