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**23p-0566**

**COAL LAB 7 – TASK 5**

**Code:**

org 0x0100

mov ax, 0x7AC9 ;ax with the 16-bit number given in question (0111 1010 1100 1001b = 7AC9)

mov bl, 0x07 ;bl with the 8-bit number (example: 0000 0111b = 07)

mov dx, 0;

;Checking first nibble (bits 0-3)

mov cx, ax

and cx, 0x000F

cmp cl, bl

je first\_match

; Check second nibble (bits 4-7)

mov cx, ax

shr cx, 4

and cx, 0x000F

cmp cl, bl

je second\_match

;Checking third nibble (bits 8-11)

mov cx, ax

shr cx, 8

and cx, 0x000F

cmp cl, bl

je third\_match

;Checking fourth nibble (bits 12-15)

mov cx, ax

shr cx, 12

and cx, 0x000F

cmp cl, bl

je fourth\_match

jmp end\_program

first\_match:

mov dx, 1

jmp end\_program

second\_match:

mov dx, 2

jmp end\_program

third\_match:

mov dx, 3

jmp end\_program

fourth\_match:

mov dx, 4

end\_program:

mov ax, 0x4c00

int 0x21

OUTPUT:  
