CSE 331L / EEE 332L: Microprocessor Interfacing & Embedded System

Section: 7, Summer 2021

Quiz - 03

Marks: 10

Time: 25 mins

ID:	

The following program reads 16 decimal numbers and prints their average using bit-shift instruction, but there are some errors in it.

```
07  .CODE
08
09      mov ax, @data
10      mov ds, ax
11
12      mov bx, 16
13      mov dx, 0
14
15      _loop:
16      call scan_num
17      printn
18
19      add dx, cx
20
21      jnz _loop
22
23      average:
24      sar dx, 4
25
26      call print_num|
27
28  EXIT:
29  MOV AH, 4CH
30  INT 21H
31
32  define_print_num
33  define_print_num_uns
34  define_scan_num
```

Q1: Find how many errors there are in the given code, and write the correct instructions. (5.5)

Ans:
Number of errors: 3

Corrections:
Line 20- dec bx
Line 24- shr dx, 4
Line 25- mov ax, dx

Q2: Identify and explain the error/s in the following instructions: (4.5)

MOV BL, EFH
SHL BL
MOV DX, BL

Ans:
Mov BL, EFH: the error is in the direct data EFH. As the data has a letter at the left, the assembler would be unable to identify if the data is a number or a string.

SHL BL: there must be two operands for bit-shift instructions

MOV DX, BL: the operand sizes mismatch