COMSATS University Islamabad, Lahore Campus

Microprocessor and Assembly

Mid Term – Lab Exam

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Question no 1

Code:

```
ORG 100H

.DATA

    N       DB  0
    COLS    DB  0
    LEFT    DB  0
    RIGHT   DB  0

.CODE

MOV AH, 1
INT 21H
MOV COLS, AL

ADD COLS, AL
```

Output:

Question no 2

Part A:

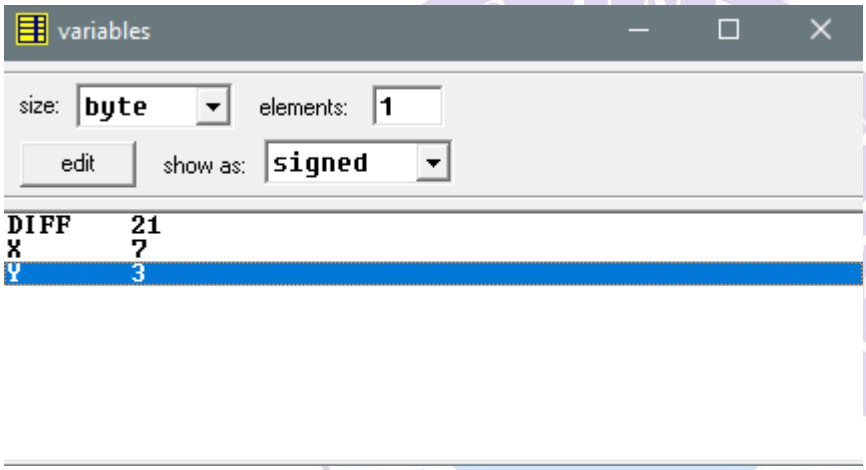
Code:

```
ORG 100H


.DATA


DIFF    DW  ?
X       DW  7
```

```
Y       DW  3


.CODE
            XOR CX, CX
            MOV AX, X
            MOV BX, Y

            CMP AX, BX
            JGE XGREAT
            MOV DIFF, BX
            JMP REMAINDER

    XGREAT: MOV DIFF, AX
            JMP REMAINDER

 REMAINDER: XOR DX, DX
            XOR AX, AX
            MOV AX, DIFF
            MOV CX, X
            DIV CX

            CMP DX, 0
            JNE NOTEQUAL

            XOR DX, DX
            XOR AX, AX
            MOV AX, DIFF
```

```
            MOV CX, Y
            DIV CX
            CMP DX, 0
            JE  EQUAL


NOTEQUAL:   INC DIFF
            JMP REMAINDER
```

Output:



Part B:

Code:

```
ORG 100H

.DATA

S   DW  0, 1, 2, 7 DUP (2)

.CODE

LEA SI, S
XOR BX, BX
ADD SI, 6
```

```
LOOPARRAY:
INC BX
MOV DX, 0

SUB SI, 2
ADD DX, [SI]
SUB SI, 2
ADD DX, [SI]
SUB SI, 2
SUB DX, [SI]

ADD SI, 6
MOV [SI], DX
ADD SI, 2

CMP BX, 7
JL LOOPARRAY


RET
```

Output: