

National University of Computer and Emerging Sciences



**Laboratory Manual 03**  
*for*  
**Computer Organization and Assembly Language**  
**Programming(EL 213)**

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Section	H
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## In lab Questions

### Task 1:

Write a program to calculate the square of 20 by using a loop that adds 20 to the accumulator 20 times.

### Task 2:

Write a program to find the maximum number and the minimum number from an array of ten numbers.

### Task 3:

Following is code to find intersection of two arrays.

```
/* Suppose len1 and len2 is the length of
   first and second array. */
int k = 0;
for(int i=0; i < len1; i++) {

    for(int j = 0; j < len2; j++) {

        if( arr1[i] == arr2[j] ) {

            arry3[k]= arr2[j] ; k++;

        }

    }

}
```

You have to write this code in assembly language.

Store lengths of arrays in memory, all arrays should be of db type. Every number in arrays should be between 0 and 255, i.e., unsigned.

#### Task 4:

For each of the code snippet given below, mention if the jump will be taken or not

CODE	Jump Taken?
MOV AX, 0XF0F0 AND AX, 0X0F0F JZ LABEL1	
MOV AX, 0XF0F0 OR AX, 0XFF0F JS LABEL1	
MOV AX, 0XF2 SUB AX, 0XFA JNS LABEL1	
MOV BX, 0XA2 CMP BX, 0XC0 JL LABEL1	
MOV AX, 5 CMP AX, 6 JL L1	
MOV DX, 0XA523 CMP DX, 0XA523 JE L1	
MOV DX, 0XA523 CMP DX, 0XA523 JNE L5	
MOV AL, +127 ; HEXADECIMAL VALUE IS 7FH CMP AL, -128 ; HEXADECIMAL VALUE IS 80H JG ISGREATER	
MOV AL, +127 ; HEXADECIMAL VALUE IS 7FH CMP AL, -128 ; HEXADECIMAL VALUE IS 80H JA ISABOVE	
MOV AL, +127 ; HEXADECIMAL VALUE IS 7FH CMP AL, -128 ; HEXADECIMAL VALUE IS 80H JNG LABEL	
MOV AL, +127 ; HEXADECIMAL VALUE IS 7FH CMP AL, -128 ; HEXADECIMAL VALUE IS 80H JNA LABEL	
MOV Ax, 0xFFFF SUB AX, 2 ; JA LABEL	