

**Department of Computer Science and Engineering**

**21st Batch**

**Lab Report 5**

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| Course title | : Microprocessor and Assembly Language |
| Course Code | : CSE-334 |

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**Problem Statement:** Write an assembly program that will take three inputs from the user and you will need to calculate the second greatest of the three.

**Theory:** To Print the Second Largest number firstly we will compare the “**First**” and “**Second**” number then with the **lower** number we will compare the “**Third**” number. Afterward we will compare the if the migrated number from step one is larger than the “**Third**” number then it is the **Second larger** number. But if the “**Third**” number is larger then we will have to compare with the **larger** number of step one and whomever is the lowest will be the **Second larger** number.

**Process Diagram:**

B Greater

A Greater

C Greater

A Greater

C Greater

B Greater

C Greater

B Greater

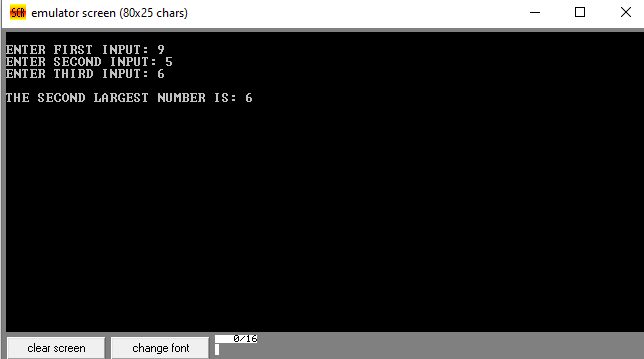
C Greater

A Greater

**CODE:**

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| .MODEL SMALL  .STACK 100H  .DATA  NL EQU 0AH,0DH  A DB ?  B DB ?  C DB ?  IN\_A DB NL,"ENTER FIRST INPUT : $"  IN\_B DB NL,"ENTER SECOND INPUT : $"  IN\_C DB NL,"ENTER THIRD INPUT : $"  BOTH DB " AND $"  NO DB NL,NL,"THERE IS NO SECOND LARGEST NUMBER $"  SECOND\_LRG DB NL,NL,"THE SECOND LARGEST NUMBER IS : $"  .CODE  MAIN PROC  MOV AX,@DATA  MOV DS,AX    MOV AH,9 ; FIRST NUMBER INPUT  LEA DX,IN\_A  INT 21H  MOV AH,1  INT 21H  MOV A,AL  MOV BL,A    MOV AH,9 ; SECOND NUMBER INPUT  LEA DX,IN\_B  INT 21H  MOV AH,1  INT 21H  MOV B,AL  MOV BH,B    MOV AH,9 ; THIRD NUMBER INPUT  LEA DX,IN\_C  INT 21H  MOV AH,1  INT 21H  MOV C,AL  MOV CL,C    CMP BL,BH  JG CMP\_B\_C  JL CMP\_A\_C  JE CMP\_AB\_C    CMP\_A\_C:  CMP BL,CL  JG INT\_2A  JL INT\_2BC  JE INT\_2\_A\_C  INT\_2BC:  CMP BH,CL  JG INT\_2C  JL INT\_2B  JE INT\_2A  CMP\_B\_C:  CMP BH,CL  JG INT\_2B  JL INT\_2AC  JE INT\_2\_B\_C  INT\_2AC:  CMP BL,CL  JG INT\_2C  JL INT\_2A  JE INT\_2B  CMP\_AB\_C:  CMP BL,CL  JG INT\_2C  JL INT\_2\_A\_B  JE INT\_NO    INT\_2A:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,A  INT 21H  JMP NEXT  INT\_2B:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,B  INT 21H  JMP NEXT  INT\_2C:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,C  INT 21H  JMP NEXT  INT\_2\_A\_C:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,A  INT 21H  MOV AH,9  LEA DX,BOTH  INT 21H  MOV AH,2  MOV DL,C  INT 21H  JMP NEXT  INT\_2\_A\_B:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,A  INT 21H  MOV AH,9  LEA DX,BOTH  INT 21H  MOV AH,2  MOV DL,B  INT 21H  JMP NEXT  INT\_2\_B\_C:  MOV AH,9  LEA DX,SECOND\_LRG  INT 21H  MOV AH,2  MOV DL,B  INT 21H  MOV AH,9  LEA DX,BOTH  INT 21H  MOV AH,2  MOV DL,C  INT 21H  JMP NEXT  INT\_NO:  MOV AH,9  LEA DX,NO  INT 21H  JMP NEXT  NEXT:  MOV AH,4CH  INT 21H  MAIN ENDP  END MAIN |

**Result:**

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