

NAME: ZEHRA MOHAMMAD TAQI
SEAT NO: B21110006167

PROGRAM TO SWAP TWO NUMBERS:

```
DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG DB 'ENTER NUMBER:$'
MSG1 DB 'BEFORE SWAPING:$'
MSG2 DB 'AFTER SWAPING:$'
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX
MOV DX,OFFSET MSG
MOV AH,9
INT 21H
MOV AH,1                ;ENTER 1ST NUMBER
INT 21H
MOV BX,AX                ;MOVE TO BX
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG
MOV AH,9
INT 21H
MOV AH,1                ;ENTER 2ND NUMBER
INT 21H
MOV CX,AX                ;MOVE TO CX
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG1
MOV AH,9
INT 21H
MOV DX,BX
MOV AH,2
INT 21H
PUSH BX                  ;PUSH BX INTO STACK
MOV DX,CX
MOV AH,2
INT 21H
PUSH CX                  ;PUSH CX INTO STACK
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG2
MOV AH,9
INT 21H
POP BX                   ;POP LAST VALUE FROM STACK TO BX
MOV DX,BX
MOV AH,2
INT 21H
POP CX                   ;POP FIRST VALUE FROM STACK TO CX
MOV DX,CX
MOV AH,2
INT 21H
MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN
```

NAME: ZEHRA MOHAMMAD TAQI
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DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\F20.ASM

DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG DB 'ENTER NUMBER:\$'
MSG1 DB 'BEFORE SWAPING:\$'
MSG2 DB 'AFTER SWAPING:\$'
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX
MOV DX,OFFSET MSG
MOV AH,9
INT 21H
MOV AH,1
:ENTER 1ST NUMBER
INT 21H
MOV BX,AX
:MOVE TO BX
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG
MOV AH,9

F1=Help

Line:1 Col:1

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\F20.ASM

INT 21H
MOV AH,1
:ENTER 2ND NUMBER
INT 21H
MOV CX,AX
:MOVE TO CX
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG1
MOV AH,9
INT 21H
MOV DX,BX
MOV AH,2
INT 21H
:PUSH BX INTO STACK
PUSH BX
MOV DX,CX
MOV AH,2
INT 21H
:PUSH CX INTO STACK
PUSH CX
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG2

F1=Help

Line:44 Col:1

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\F20.ASM

MOV AH,9
INT 21H
POP BX
:POP LAST VALUE FROM STACK TO BX
MOV DX,BX
MOV AH,2
INT 21H
POP CX
:POP FIRST VALUE FROM STACK TO CX
MOV DX,CX
MOV AH,2
INT 21H
MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN

F1=Help

Line:66 Col:1

NAME: ZEHRA MOHAMMAD TAQI
SEAT NO: B21110006167

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX

C:\>EDIT F20.ASM

C:\>MASM F20.ASM;
Microsoft (R) Macro Assembler Version 5.00
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51680 + 464864 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>LINK F20.OBJ;

Microsoft (R) Overlay Linker Version 3.60
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C:\>F20.EXE
ENTER NUMBER:4
ENTER NUMBER:5
BEFORE SWAPING:45
AFTER SWAPING:54
```

NAME: ZEHRA MOHAMMAD TAQI
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PROGRAM TO RESERVE A STRING:

```
DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG1 DB 'STRING:$'
MSG2 DB 'REVERSE STRING:$'
STRING DB 'ABC$'
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX
MOV DX,OFFSET MSG1           ;PRINT MESSAGE 1
MOV AH,9
INT 21H
MOV DX,OFFSET STRING         ;PRINT STRING
MOV AH,9
INT 21H
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG2           ;PRINT MESSAGE 2
MOV AH,9
INT 21H

MOV SI,OFFSET STRING         ;SEND SI TO FIRST ADDRESS OF STRING

MOV CX,3                     ;SET COUNTER ACCORDING TO LENGTH
L1:
MOV BX,[SI]                   ;MOVE ELEMENT TO BX
PUSH BX                       ;PUSH BX INTO STACK
INC SI
LOOP L1                       ;LOOP CALL

MOV CX,3                     ;SET COUNTER ACCORDING TO LENGTH
L2:
POP DX                       ;POP ELEMENT FROM STACK
MOV AH,2
INT 21H
LOOP L2                       ;LOOP CALL

MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN
```

NAME: ZEHRA MOHAMMAD TAQI
SEAT NO: B21110006167

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT
File Edit Search View Options Help
C:\F19.ASM
DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG1 DB 'STRING:$'
MSG2 DB 'REVERSE STRING:$'
STRING DB 'ABC$'
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX
MOV DX,OFFSET MSG1      :PRINT MESSAGE 1
MOV AH,9
INT 21H
MOV DX,OFFSET STRING    :PRINT STRING
MOV AH,9
INT 21H
MOV DX,10
MOV AH,2
INT 21H
MOV DX,OFFSET MSG2      :PRINT MESSAGE 2
MOV AH,9
F1=Help
Line:1 Col:1
```

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT
File Edit Search View Options Help
C:\F19.ASM
INT 21H
MOV SI,OFFSET STRING    :SEND SI TO FIRST ADDRESS OF STRING
MOV CX,3                :SET COUNTER ACCORDING TO LENGTH
L1:
MOV BX,[SI]             :MOVE ELEMENT TO BX
PUSH BX                 :PUSH BX INTO STACK
INC SI
LOOP L1                 :LOOP CALL
MOV CX,3                :SET COUNTER ACCORDING TO LENGTH
L2:
POP DX                  :POP ELEMENT FROM STACK
MOV AH,2
INT 21H
LOOP L2                 :LOOP CALL
MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN
F1=Help
Line:44 Col:1
```

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
C:\>

C:\>EDIT F19.ASM

C:\>MASM F19.ASM;
Microsoft (R) Macro Assembler Version 5.00
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51642 + 464902 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>LINK F19.OBJ;

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C:\>F19.EXE
STRING:ABC
REVERSE STRING:CBA
```

NAME: ZEHRA MOHAMMAD TAQI
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PROGRAM TO INPUT A STRING AND REVERSE IT:

```
DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG1 DB 'ENTER STRING:$'
MSG2 DB 'REVERSE STRING:$'
STRING DB 100 DUP('$')
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX

MOV DX,OFFSET MSG1
MOV AH,9
INT 21H
MOV SI,OFFSET STRING

STRING_LOOP:                                ;LOOP FOR INPUT STRING
MOV AH,1
INT 21H
CMP AL,13                                  ;COMPARE STATEMENT
JE STRING_PRINT                             ;CONDITIONAL JUMP
MOV [SI],AL                                ;MOVE AL VALUE TO SI
INC SI                                     ;INCREMENT SI
JMP STRING_LOOP                             ;UNCONDITIONAL JUMP

STRING_PRINT:
MOV DX,OFFSET MSG2
MOV AH,9
INT 21H
MOV BX,'#'
PUSH BX
MOV SI,OFFSET STRING

L1:                                          ;LOOP FOR PUSH INTO STACK
MOV BX,[SI]
CMP BL,'$'                                 ;COMPARE STATEMENT
JE L2                                       ;CONDITIONAL JUMP
PUSH BX
INC SI
JMP L1                                     ;UNCONDITIONAL JUMP

L2:                                          ;LOOP FOR POP FROM STACK
POP DX
CMP DX,'#'                                 ;COMPARE STATEMENT
JE L3                                       ;CONDITIONAL JUMP
MOV AH,2
INT 21H
JMP L2                                     ;UNCONDITIONAL JUMP

L3:
MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN
```

NAME: ZEHRA MOHAMMAD TAQI
SEAT NO: B21110006167

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\NF21.ASM

DOSSEG
.MODEL SMALL
.STACK 100H
.DATA
MSG1 DB 'ENTER STRING:\$'
MSG2 DB 'REVERSE STRING:\$'
STRING DB 100 DUP('\$')
.CODE
MAIN PROC
MOV AX,@DATA
MOV DS,AX

MOV DX,OFFSET MSG1
MOV AH,9
INT 21H
MOV SI,OFFSET STRING

STRING_LOOP: ;LOOP FOR INPUT STRING
MOV AH,1
INT 21H
CMP AL,13 ;COMPARE STATEMENT
F1=Help

Line:2 Col:1

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\NF21.ASM

JE STRING_PRINT ;CONDITIONAL JUMP
MOV [SI],AL ;MOVE AL VALUE TO SI
INC SI ;INCREMENT SI
JMP STRING_LOOP ;UNCONDITIONAL JUMP

STRING_PRINT:
MOV DX,OFFSET MSG2
MOV AH,9
INT 21H
MOV BX,'#'
PUSH BX
MOV SI,OFFSET STRING

L1: ;LOOP FOR PUSH INTO STACK
MOV BX,[SI]
CMP BL,'#' ;COMPARE STATEMENT
JE L2 ;CONDITIONAL JUMP
PUSH BX
INC SI
JMP L1 ;UNCONDITIONAL JUMP
F1=Help

Line:22 Col:1

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help

C:\NF21.ASM

L2: ;LOOP FOR POP FROM STACK
POP DX
CMP DX,'#' ;COMPARE STATEMENT
JE L3 ;CONDITIONAL JUMP
MOV AH,2
INT 21H
JMP L2 ;UNCONDITIONAL JUMP

L3:
MOV AH,4CH
INT 21H
MAIN ENDP
END MAIN
F1=Help

Line:64 Col:34

NAME: ZEHRA MOHAMMAD TAQI

SEAT NO: B21110006167

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
C:\>
C:\>EDIT F21.ASM
C:\>MASM F21.ASM;
Microsoft (R) Macro Assembler Version 5.00
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51640 + 464904 Bytes symbol space free

0 Warning Errors
0 Severe Errors
C:\>LINK F21.OBJ;
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C:\>F21.EXE
ENTER STRING:REVERSE THIS SENTENCE
REVERSE STRING:ECNETNES SIHT ESREUER
```