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CLASS : SE IT A

BATCH: A1

ROLL NUMBER : 3164018

TITLE: STRING OPERATIONS USING FAR PROCEDURE

CODE:

1. For module 1 –

;MODULE 1

PUBLIC STR1

PUBLIC STR2

EXTRN CONCATENATE:FAR

EXTRN COMPARESTR:FAR

EXTRN CHARSPACE:FAR

.MODEL SMALL

.DATA

MSG1 DB 10,13,"ENTER A STRING :$"

STR1 DB 20H

DB 00H

DB 20H DUP(00)

STR2 DB 20H

DB 00H

DB 20H DUP(00)

DISP MACRO M1 ;MACRO TO DISPLAY A MESSAGE

LEA DX,M1

MOV AH,09H

INT 21H

ENDM

MSG2 DB 10,13,"OPTIONS :-" ;MENU

DB 10,13,"1.CONCATENATE"

DB 10,13,"2.COMPARE"

DB 10,13,"3.NUMBER OF CHARACTERS AND SPACES"

DB 10,13,"4.EXIT$"

MSG10 DB 10,13,"FOR STRING 1 :$"

MSG11 DB 10,13,"FOR STRING 2 :$"

.CODE

MOV AX,@DATA

MOV DS,AX

MOV ES,AX

DISP MSG1 ;ACCEPT STRING 1

MOV AH,0AH

LEA DX,STR1

INT 21H

DISP MSG1 ;ACCEPT STRING2

MOV AH,0AH

LEA DX,STR2

INT 21H

UP:DISP MSG2 ;SWITCH CASE

MOV AH,01H

INT 21H

CMP AL,31H

JE FIRST

CMP AL,32H

JE SECOND

CMP AL,33H

JE THIRD

CMP AL,34H

JE FOURTH

;CALLING THE FAR PROCEDURES

FIRST : CALL CONCATENATE

JMP UP

SECOND: CALL COMPARESTR

JMP UP

THIRD:DISP MSG10

LEA SI,STR1

CALL CHARSPACE

DISP MSG11

LEA SI,STR2

CALL CHARSPACE

JMP UP

FOURTH: MOV AH,4CH ;TERMINATING THE PROGRAM

INT 21H

END

1. For module 2 –

;MODULE 2

PUBLIC CONCATENATE

PUBLIC COMPARESTR

PUBLIC CHARSPACE

EXTRN STR1:BYTE

EXTRN STR2:BYTE

.MODEL SMALL

DISP MACRO M1

LEA DX,M1

MOV AH,09H

INT 21H

ENDM

.DATA

MSG3 DB 10,13,"CONCATENATED STRING IS :$"

MSG4 DB 10,13,"THE STRING IS A SUBSTRING :$"

MSG5 DB 10,13,"THE STRING IS NOT A SUBSTRING $"

MSG6 DB 10,13,"THE NUMBER OF CHARACTERS ARE : $"

MSG7 DB 10,13,"THE NUMBER OF SPACES ARE : $"

MSG8 DB 10,13,"THE STRINGS ARE EQUAL $"

MSG9 DB 10,13,"THE STRINGS ARE UNEQUAL $"

CNT DB 00H

.CODE

MOV AX,@DATA

MOV DS,AX

MOV ES,AX

PROC CONCATENATE NEAR

DISP MSG3

LEA SI,STR1

INC SI

MOV CH,[SI]

LOOP2:INC SI ;DISPLAYING STRING 1

MOV DX,[SI]

MOV AH,02H

INT 21H

DEC CH

JNZ LOOP2

LEA SI,STR2

MOV CH,[SI]

INC SI

MOV CH,[SI]

LOOP1:INC SI ;DISPLAYING STRING 2

MOV DX,[SI]

MOV AH,02H

INT 21H

DEC CH

JNZ LOOP1

RET

ENDP

PROC COMPARESTR FAR

LEA SI,STR1

LEA DI,STR2

INC SI

INC DI

MOV CH,[SI]

MOV CL,[DI]

CMP CH,CL

JNZ UP1

MOV CH,00H

MOV CL,[SI]

LEA SI,STR1+2 ;EXECUTE IF LENGTH OF BOTH THE STRINGS ARE SAME

LEA DI,STR2+2

CLD

REPE CMPSB ;COMPARING THE STRINGS CHARACTER BY CHARACTER

JE DOWN

UP1: DISP MSG9 ;NOT EQUAL

JMP D1

DOWN : DISP MSG8 ;EQUAL

D1:RET

ENDP

PROC CHARSPACE FAR ;PROCEDURE FOR NO. OF SPACES AND CHARACTERS

INC SI

MOV CH,[SI]

MOV CNT,CH

MOV CL,00H ;COUNTER FOR NUMBER OF SPACES

LABEL1:INC SI

MOV BH,[SI]

CMP BH,020H

JNZ LABEL2

INC CL

LABEL2:DEC CNT

JNZ LABEL1

MOV BL,CL

SUB CH,CL ;CALCULATING NUMBER OF CHARACTERS

MOV BH,CH

DISP MSG7

CALL DISPLAY1

DISP MSG6

MOV BL,BH

CALL DISPLAY1

RET

ENDP

PROC DISPLAY1 NEAR

MOV CH,02H ;2 DIGIT DISPLAY ROUTINE

MOV CL,04H

P1:ROL BL,CL

MOV DL,BL

AND DL,0FH

CMP DL,09H

JBE P2

ADD DL,07H

P2:ADD DL,30H

MOV AH,02H

INT 21H

DEC CH

JNZ P1

RET

ENDP

END

**OUTPUT:**



