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Batch - A

Assignment 7

1.) Write a program to create a macro to take name and age as input from user and display the same on user screen

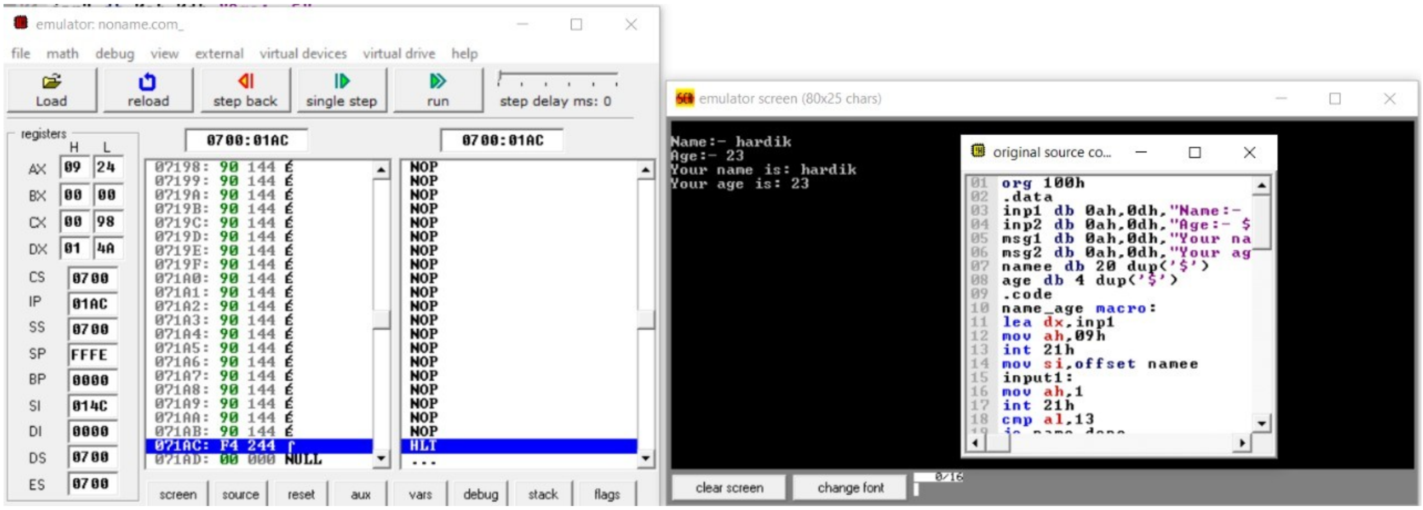
SOURCE CODE:

```
org 100h

.data
inp1 db 0ah,0dh,"Name:- $"
inp2 db 0ah,0dh,"Age:- $"
msg1 db 0ah,0dh,"Your name is : $"
msg2 db 0ah,0dh,"Your age is : $"
namee db 20 dup('$')
age db 4 dup('$')
.code
name_age macro:
lea dx,inp1
mov ah,09h
int 21h
mov si,offset namee
input1:
mov ah,1
int 21h
cmp al,13
je name_done
mov [si],al
inc si
jmp input1
name_done:
lea dx,inp2
mov ah,09h
int 21h
mov si,offset age
input2:
mov ah,1
int 21h
cmp al,13
je display
mov [si],al
inc si
jmp input2
```

```
display:
lea dx,msg1
mov ah,09h
int 21h
lea dx,namee
mov ah,09h
int 21h
lea dx,msg2
mov ah,09h
int 21h
lea dx,age
mov ah,09h
int 21h
endm
name_age
end
```

OUTPUT:



	H	L
AX	09	24
BX	00	00
CX	00	98
DX	01	4A
CS	0700	
IP	01AC	
SS	0700	
SP	FFFE	
BP	0000	
SI	014C	
DI	0000	
DS	0700	
ES	0700	

```
0700:01AC
07198: 90 144 É
07199: 90 144 É
0719A: 90 144 É
0719B: 90 144 É
0719C: 90 144 É
0719D: 90 144 É
0719E: 90 144 É
0719F: 90 144 É
071A0: 90 144 É
071A1: 90 144 É
071A2: 90 144 É
071A3: 90 144 É
071A4: 90 144 É
071A5: 90 144 É
071A6: 90 144 É
071A7: 90 144 É
071A8: 90 144 É
071A9: 90 144 É
071AA: 90 144 É
071AB: 90 144 É
071AC: F4 244 ſ
071AD: 00 000 NULL
```

```
0700:01AC
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
HLT
...
```

```
Name:- hardik
Age:- 23
Your name is: hardik
Your age is: 23
```

```
org 100h
.data
inp1 db 0ah,0dh,"Name:-
inp2 db 0ah,0dh,"Age:- $
msg1 db 0ah,0dh,"Your na
msg2 db 0ah,0dh,"Your ag
namee db 20 dup('$')
age db 4 dup('$')
.code
name_age macro:
lea dx,inp1
mov ah,09h
int 21h
mov si,offset namee
input1:
mov ah,1
int 21h
cmp al,13
```

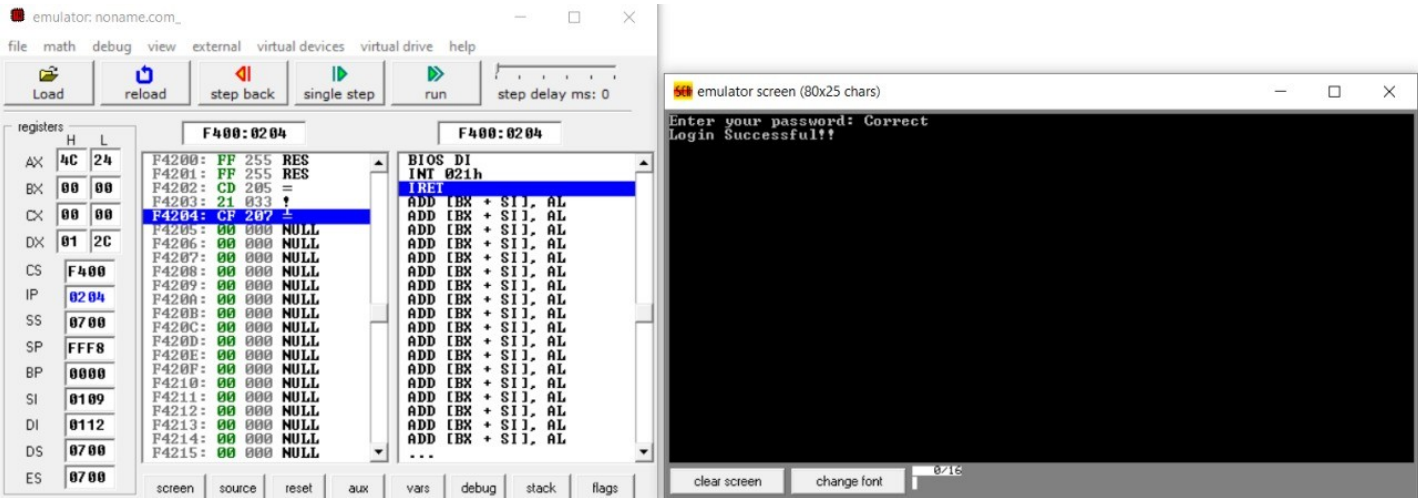
2.) Write a program to check if the password entered by user is correct or not
SOURCE CODE:

```
org 100h

    .data
    correct db "Correct$"
    length db 7
    password db 10 dup('$')
    len db 0
    inp db "Enter your password : $"
    success db 0ah,0dh,"Login Successful!!$"
    failed db 0ah,0dh,"Login Failed!!$"
    .code
    lea dx,inp
    mov ah,09h
    int 21h
```

```
lea si,password
input:
mov ah,1
int 21h
cmp al,13
je check
mov [si],al
inc len
inc si
jmp input
check:
mov dl,length
cmp dl,len
jne fail
mov cl,length
lea si,Correct
lea di,password
compare:
cmpsb
jnz fail
loop compare
lea dx,success
mov ah,09h
int 21h
jmp done
fail:
lea dx,failed
mov ah,09h
int 21h
done:
mov ah,4ch
int 21h
end
```

OUTPUT:



```
     H   L
AX  4C  24
BX  00  00
CX  00  00
DX  01  2C
CS  F400
IP  0204
SS  0700
SP  FFF8
BP  0000
SI  0109
DI  0112
DS  0700
ES  0700
```

```
F400:0204

F4200: FF 255 RES
F4201: FF 255 RES
F4202: CD 205 =
F4203: 21 033 !
F4204: CF 207 ±
F4205: 00 000 NULL
F4206: 00 000 NULL
F4207: 00 000 NULL
F4208: 00 000 NULL
F4209: 00 000 NULL
F420A: 00 000 NULL
F420B: 00 000 NULL
F420C: 00 000 NULL
F420D: 00 000 NULL
F420E: 00 000 NULL
F420F: 00 000 NULL
F4210: 00 000 NULL
F4211: 00 000 NULL
F4212: 00 000 NULL
F4213: 00 000 NULL
F4214: 00 000 NULL
F4215: 00 000 NULL
```

```
F400:0204

BIOS DI
INT 021h
IRET
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
...
```

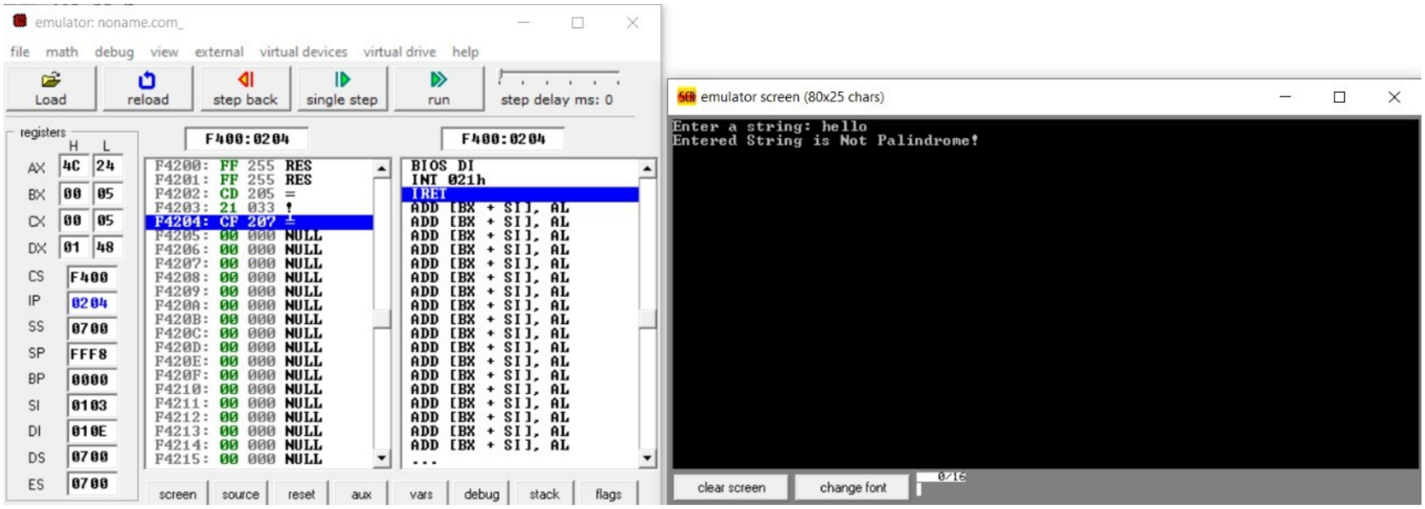
```
Enter your password: Correct
Login Successful!!
```

3.) Write a program to check if a string entered by user is palindrome or not
SOURCE CODE:

```
org 100h
    .data
    str db 10 dup('$')
    len db 0
    rev_str db 10 dup('$')
    inp db "Enter a string : $"
    yes db 0ah,0dh,"Entered String is Palindrome!$"
    no db 0ah,0dh,"Entered String is Not Palindrome!$"
    .code
    lea dx,inp
    mov ah,09h
    int 21h
    lea si,str
    input:
    mov ah,1
    int 21h
    cmp al,13
    je check
    mov [si],al
    inc len
    inc si
    jmp input
    check:
    mov bx,0
    mov bl,len
    mov si,bx
    mov bx,0
    dec si
    while:
    cmp str[bx],'$'
    je next
```

```
mov al,str[bx]
mov rev_str[si],al
inc bx
dec si
jmp while
next:
mov rev_str[bx],'$'
mov cl,len
lea si,str
lea di,rev_str
compare:
cmpsb
jnz fail
loop compare
lea dx,yes
mov ah,09h
int 21h
jmp done
fail:
lea dx,no
mov ah,09h
int 21h
done:
mov ah,4ch
int 21h
end
```

OUTPUT:



registers	H	L
AX	4C	24
BX	00	05
CX	00	05
DX	01	48
CS	F400	
IP	0204	
SS	0700	
SP	FFF8	
BP	0000	
SI	0103	
DI	010E	
DS	0700	
ES	0700	

```
F400:0204
F4200: FF 255 RES
F4201: FF 255 RES
F4202: CD 205 =
F4203: 21 033 !
F4204: CF 207 ╧
F4205: 00 000 NULL
F4206: 00 000 NULL
F4207: 00 000 NULL
F4208: 00 000 NULL
F4209: 00 000 NULL
F420A: 00 000 NULL
F420B: 00 000 NULL
F420C: 00 000 NULL
F420D: 00 000 NULL
F420E: 00 000 NULL
F420F: 00 000 NULL
F4210: 00 000 NULL
F4211: 00 000 NULL
F4212: 00 000 NULL
F4213: 00 000 NULL
F4214: 00 000 NULL
F4215: 00 000 NULL
```

```
F400:0204
BIOS DI
INT 021h
IRET
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
...
```

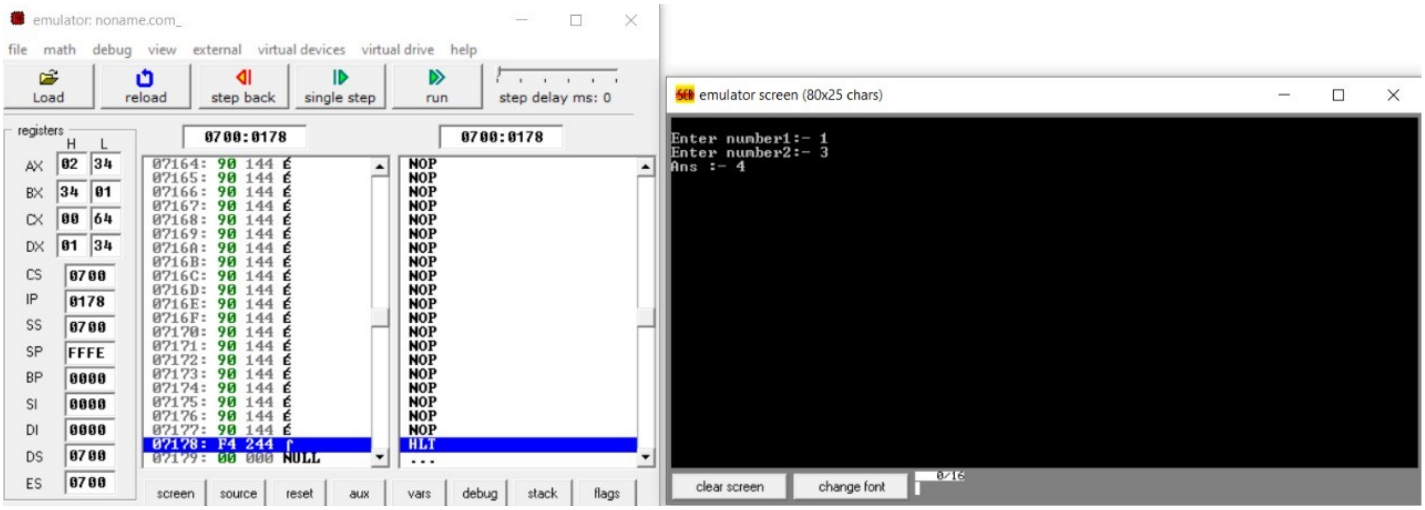
```
Enter a string: hello
Entered String is Not Palindrome!
```

4.) Write a program for addition of two numbers taken from user (ASCII addition)

SOURCE CODE:

```
org 100h
    .data
    num1 db 0ah,0dh,"Enter number1 :- $"
    num2 db 0ah,0dh,"Enter number2 :- $"
    msg db 0ah,0dh,"Ans  :- $"
    .code
    lea dx,num1
    mov ah,09h
    int 21h
    mov ah,01
    int 21h
    mov bl,al
    lea dx,num2
    mov ah,09h
    int 21h
    mov ah,01
    int 21h
    mov bh,al
    sub bh,30h
    sub bl,30h
    add bh,bl
    add bh,30h
    lea dx,msg
    mov ah,09h
    int 21h
    mov dl,bh
    mov ah,02h
    int 21h
    end
```

OUTPUT:



registers	H	L
AX	02	34
BX	34	01
CX	00	64
DX	01	34
CS	0700	
IP	0178	
SS	0700	
SP	FFFE	
BP	0000	
SI	0000	
DI	0000	
DS	0700	
ES	0700	

```
0700:0178
07164: 90 144 É
07165: 90 144 É
07166: 90 144 É
07167: 90 144 É
07168: 90 144 É
07169: 90 144 É
0716A: 90 144 É
0716B: 90 144 É
0716C: 90 144 É
0716D: 90 144 É
0716E: 90 144 É
0716F: 90 144 É
07170: 90 144 É
07171: 90 144 É
07172: 90 144 É
07173: 90 144 É
07174: 90 144 É
07175: 90 144 É
07176: 90 144 É
07177: 90 144 É
07178: F4 244 ſ
07179: 00 000 NULL
```

```
0700:0178
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
NOP
HLT
...
```

```
Enter number1:- 1
Enter number2:- 3
Ans :- 4
```

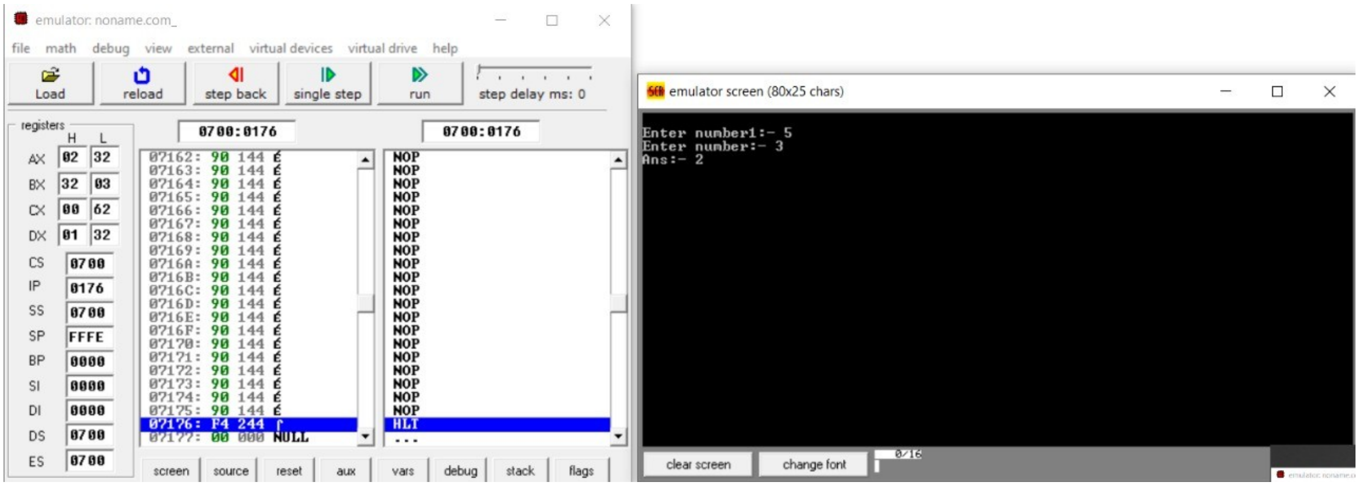
5.) Write a program subtraction of two numbers taken from user (ASCII subtraction)

SOURCE CODE:

```
org 100h

    .data
    num1 db 0ah,0dh,"Enter number1 :- $"
    num2 db 0ah,0dh,"Enter number :- $"
    msg db 0ah,0dh,"Ans :- $"
    .code
    lea dx,num1
    mov ah,09h
    int 21h
    mov ah,01
    int 21h
    mov bh,al
    lea dx,num2
    mov ah,09h
    int 21h
    mov ah,01
    int 21h
    mov bl,al
    sub bh,30h
    sub bl,30h
    sub bh,bl
    add bh,30h
    lea dx,msg
    mov ah,09h
    int 21h
    mov dl,bh
    mov ah,02h
    int 21h
    end
```

OUTPUT:



```
    H  L
AX  02 32
BX  32 03
CX  00 62
DX  01 32
CS  0700
IP  0176
SS  0700
SP  FFFE
BP  0000
SI  0000
DI  0000
DS  0700
ES  0700
```

```
0700:0176                    0700:0176
07162: 90 144 É              NOP
07163: 90 144 É              NOP
07164: 90 144 É              NOP
07165: 90 144 É              NOP
07166: 90 144 É              NOP
07167: 90 144 É              NOP
07168: 90 144 É              NOP
07169: 90 144 É              NOP
0716A: 90 144 É              NOP
0716B: 90 144 É              NOP
0716C: 90 144 É              NOP
0716D: 90 144 É              NOP
0716E: 90 144 É              NOP
0716F: 90 144 É              NOP
07170: 90 144 É              NOP
07171: 90 144 É              NOP
07172: 90 144 É              NOP
07173: 90 144 É              NOP
07174: 90 144 É              NOP
07175: 90 144 É              NOP
07176: F4 244 ſ              HLT
07177: 00 000 NULL           ...
```

```
Enter number1:- 5
Enter number:- 3
Ans:- 2
```