MICROPROCESSOR LABORATORY

Assignment No. 1

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DIVISION :- A

Assignment No. 1

Program :

```
%macro read_or_print 4
mov Rax, %1
mov Rdi, %2
mov Rsi, %3
mov Rdx, %4
syscall
%endmacro

%macro exit 0
mov rax,60
mov rdi,0
syscall
%endmacro

section .bss
array resd 200
counter resb 1

section .text
global _start
_start:

; Accept numbers in an array
mov byte[counter],09
mov rsi,array
loop:
read_or_print 0,0,rsi,17
add Rsi,17
dec byte[counter]
jnz loop

;display Contents of Array
mov byte [counter],09
mov rsi, array
loop1:
read_or_print 1,1,rsi,17
add Rsi, 17
dec byte [counter]
jnz loop1
exit
```

```
%macro read_or_print 4
mov Rax, %1
mov Rdi, %2
mov Rsi, %3
mov Rdx, %4 syscall
%endmacro

%macro exit 0 mov rax,60 mov rdi,0 syscall
%endmacro

section .bss array resd 200
counter resb 1

section .text global _start
_start:

; Accept numbers in an array mov byte[counter],09
mov rsi,array loop:
read_or_print 0,0,rsi,17 add Rsi,17
dec byte[counter] jnz loop

;display Contents of Array mov byte [counter],09 mov rsi, array
loop1:
read_or_print 1,1,rsi,17 add Rsi, 17
dec byte [counter] jnz loop1
exit
```

Input :

```
1   0123456789ABCDEF
2   123456789ABCDEF0
3   23456789ABCDEF01
4   3456789ABCDEF012
5   456789ABCDEF0123
6   56789ABCDEF01234
7   6789ABCDEF012345
8   789ABCDEF0123456
9   89ABCDEF01234567
```

Output :

```
0123456789ABCDEF
123456789ABCDEF0
23456789ABCDEF01
3456789ABCDEF012
456789ABCDEF0123
56789ABCDEF01234
6789ABCDEF012345
789ABCDEF0123456
89ABCDEF01234567
[Program exited with exit code 0]
```