MP PRACTICAL ASSIGNMENT

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1. Explain macro with example.

Ans A macro is a set of instructions grouped under a single unit. It is another method for implementing modular programming in the 8086 microprocessor.

A macro can be defined in program using the following assembler directives

%macro (used before the name of macro before starting the body of macro)

%endmacro (at the end of macro)

example:

```
%match qtch 1      ; macro for accept
    mov rax, 0     ; standard input
    mov rdi, 0     ; system for read
    mov rsi, %1    ; input the message
    mov rdx, 1     ; message length
    syscall        ; interrupt for 64 bit
%endmacro          ; close macro
```

2. Explain procedure with example.

Ans Procedures are very important in assembly Language, as the assembly language programs tend to be large in size. Procedures are identified by a name. Following the name, the body of the procedure is described which performs a well-defined job. End of the procedure is indicated by a return statement.

Syntax:

```
proc_name:
        procedure body
        ...
        ...
        return
```

The procedure is called from another function by using the CALL instruction

```
CALL proc_name
```

The called procedure returns the control to the calling procedure by using the RET instruction

example :

```
add :
    mov  al, [no1]
    mov  bl, [no2]
    add  bl, al
    print msg1, msglen1
    call disp_result
    ret
```

3 Write difference between procedure and macro

Sr no	Procedure	Macro
(i)	A procedure is a set of instructions that performs a specific task and a programmer can call it repetitively.	Macro is a sequence of instructions that are written within the macro definition to support modular programming.
(ii)	A procedure is used for a large number of instructions Mostly higher than ten instructions	A macro is used for a small number of instructions Mostly less than ten instructions
(iii)	Procedure requires less memory	A macro requires more memory
(iv)	Procedure requires CALL and RET instructions	Macro does not require CALL and RET instructions