

**FIT1047**  
**SUPPLEMENTARY WORKSHEET - WEEK 04**  
MARIE Programming Exercise (Part -3)

1. In MARIE assembly, use the HEX keyword to put the following string into memory:

FIT1047,    HEX 046  
              HEX 049  
              HEX 054  
              HEX 031  
              HEX 030  
              HEX 034  
              HEX 037  
              HEX 000

2. The program is available in the online book (Alexandria). This can be used to understand the following tasks: indirect addressing, skipcond, looping, string, accessing a string and termination of a string.

```
Loop, LoadI Addr
      SkipCond 800
      Jump End
      Output
      Load Addr
      Add One
      Store Addr
      Jump Loop
End,  Halt
One,  DEC 1
Sum,  DEC 0
Addr, HEX 00C
      DEC 70
      DEC 73
      DEC 84
      DEC 0
```

3. An example MARIE program that uses a subroutine to print some user input.

```
1      Input
2      Store Print_Arg
3      JnS  Print
4      Input
5      Store Print_Arg
6      JnS  Print
7      Halt
8
9      / Subroutine that prints one number
10     Print_Arg, DEC 0      / put argument here
11     Print,  HEX 0      / placeholder for return address
12     Load Print_Arg
13     Output
14     Jmpl Print      / return to caller
```

This code gets a user input and stores it in the location where the subroutine expects its argument.