FIT1047

SUPPLEMENTARY WORKSHEET - WEEK 03

MARIE Programming - Exercise (Part -1)

1.Declare 3 variables: X, Y, & Z. Store ‘5’ in X, ‘4’ in Y and ‘0’ in Z. Note: variable declaration needs to be done from the left-most position of the program writing space i.e. editor.

2. Declare 3 variables: X, Y, & Z. Store ‘5’ in X, ‘4’ in Y and ‘0’ in Z. Assemble the program. Examine the memory content. Write down the addresses of the memory locations where X, Y & Z are stored.

3. Assemble the program, and find out which register in the CPU, the variable ‘X’ has been copied into. Note: MARIE program: (i) code part ends with “Halt”, (ii) Variable part is always placed after “Halt.”

4. Declare 3 variables: X, Y, & Z. Store ‘5’ in X, ‘4’ in Y and ‘0’ in Z. Display the data stored in ‘X.

5. Declare 3 variables: X, Y, & Z. Store ‘0’ in X, ‘0’ in Y and ‘0’ in Z. Input a number and store it in the variable ‘X’ and later, display the data stored in ‘X.

6. Write a MARIE assembly language program to add two numbers that are stored in memory, and store the result in another variable Z. [Z = X + Y]

7. Write a MARIE assembly language program to input two numbers, add them and display the result in the output screen.

8. Write a MARIE assembly language program to input two numbers, subtract the first number from the other and display the result in the output screen.

9. This exercise is about the use of labels in MARIE to identify different lines or parts of a program. Write a simple MARIE program to input two numbers, add them and display the result. Label the first line of your program as “begin” and the last line as “done.”

10. This exercise is about the use of “jump” instruction to skip or repeat certain part a program. Write a simple MARIE program to input two numbers, add them and display the result. Label the first line of your program as “begin” and the last line as “done.” Use the “jump” instruction to repeat the whole process endlessly.

11. This exercise is about the use of ” Skipcond” command [skips the next line after checking the content of AC (AC = -1)]. Write a simple MARIE program to input two numbers, add them and display the result. Label the first line of your program as “begin” and the last line as “done.” Use the “jump” instruction to repeat the whole process endlessly. Use “skipcond” command appropriately to end the program when the first number entered is “-1.”

12. This exercise is about the use of ” Skipcond” command [skips the next line after checking the content of AC (AC = 0)]. Write a simple MARIE program to input two numbers, add them and display the result. Label the first line of your program as “begin” and the last line as “done.” Use the “jump” instruction to repeat the whole process endlessly. Use “skipcond” command appropriately to end the program when the first number entered is “0.”

13. This exercise is about the use of ” Skipcond” command [skips the next line after checking the content of AC (AC =+1)]. Write a simple MARIE program to input two numbers, add them and display the result. Label the first line of your program as “begin” and the last line as “done.” Use the “jump” instruction to repeat the whole process endlessly. Use “skipcond” command appropriately to end the program when the first number entered is “+1.”