Sardar Vallabhbhai Patel Institute of Technology, Vasad

Assignment 1 (System Programming-2150708)

Date: 7/7/18   **Submit in week after 15/7/18**

1. Explain different kinds of system software
2. Describe the level of System Software.
3. Explain the various stages of the life cycle of a source program with a neat diagram.
4. Which activity reduce specification gap? Explain with suitable example. Who will reduce execution gap?
5. What is the difference between System Software and Application software?
6. Compare Problem oriented and Procedure oriented languages
7. List various phases of Language Processor. Explain any one phase in detail
8. Explain language processing activities.
9. What is Symbol table? Explain how one can organize Symbol table using Linear Data Structure?
10. List various phases of a language processor. Explain roles of phases of Language Processor. Also explain symbol table.
11. Compare user-centric view and system-centric view of system software
12. Explain in detail how the following input gets processed in toy compiler.
    int a;   real b,c;   c= a + b * 0.6;
13. Explain the front end of toy compiler with suitable example.
14. Write machine code, variant 1 and variant 2 for following.

[a]

```
        START    101
        READ  N
        MOVER    BREG, ONE
        MOVEM   BREG, TERM    AGAIN
        MULT    BREG, TERM
        MOVER  CREG, TERM
        ADD   CREG, ONE
        MOVEM  CREG, TERM
        COMP  CREG, N
        BC  LE, AGAIN
        MOVEM   BREG, RESULT
        PRINT    RESULT
        STOP
        N          DS    1
        RESULT        DS    1
        ONE          DC   '1'
        TERM        DS    1
        END
```

[b]

```
        START 101
        READ N
        MOVER BREG, ONE
        MOVEM BREG, TERM
AGAIN MULT BREG, TERM
        MOVER CREG, TERM
        ADD CREG, ONE
        MOVEM CREG, TERM
        COMP CREG, N
        BC LE, AGAIN
        MOVEM BREG, AGAIN
        PRINT RESULT
        STOP
N DS 1
RESULT DS 1
ONE DC '1'
TERM DS 1
        END
```

[c]

```
START       100
A       DS          3
L1      MOVER       AREG, B
ADD         AREG, C
MOVEM       AREG, D
D       EQU         A+1
L2      PRINT       D
ORIGIN      A-1
C       DC          '5'
ORIGIN      L2+1
STOP
B       DC          '19'
END         L1
```

Prepared by:

Vibhavari Patel

(CC-SP)