**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, Kattankulathur**





**School of Computing**

**21CSC201J – Data Structures and Algorithms**

**Topic: Singly Linked List – Traversal and Searching**

**Activity: Fill the Missing Pseudocode**

**Algorithm for traversing a linked list**

* Step 1: [INITIALIZE] SET PTR = START
* Step 2: Repeat Steps 3 and 4 while PTR != NULL
* Step 3: Apply Process to PTR → DATA
* Step 4: SET PTR = PTR → NEXT  
  [END OF LOOP]
* Step 5: EXIT

**Algorithm to print the number of nodes in a linked list**

* Step 1: [INITIALIZE] SET COUNT = 0
* Step 2: [INITIALIZE] SET PTR = START
* Step 3: Repeat Steps 4 and 5 while PTR != NULL
* Step 4: SET COUNT = COUNT + 1
* Step 5: SET PTR = PTR → NEXT  
  [END OF LOOP]
* Step 6: Write COUNT
* Step 7: EXIT

**Algorithm to search a linked list**

* Step 1: [INITIALIZE] SET PTR = START
* Step 2: Repeat Step 3 while PTR != NULL
* Step 3: IF VAL = PTR → DATA  
    SET POS = current position  
    Go To Step 5  
    ELSE  
    SET PTR = PTR → NEXT  
  [END OF IF]  
  [END OF LOOP]
* Step 4: SET POS = -1 (means not found)
* Step 5: EXIT