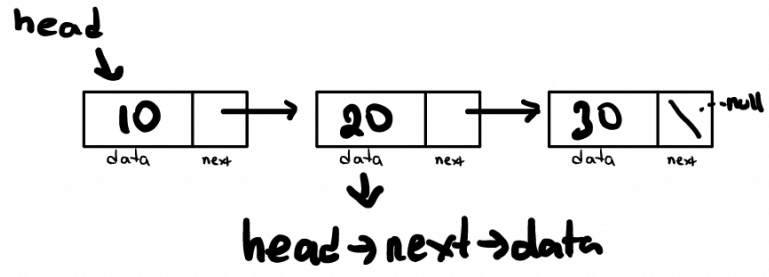
CS 300 Data Structures
Problem Set #5 – Linked List

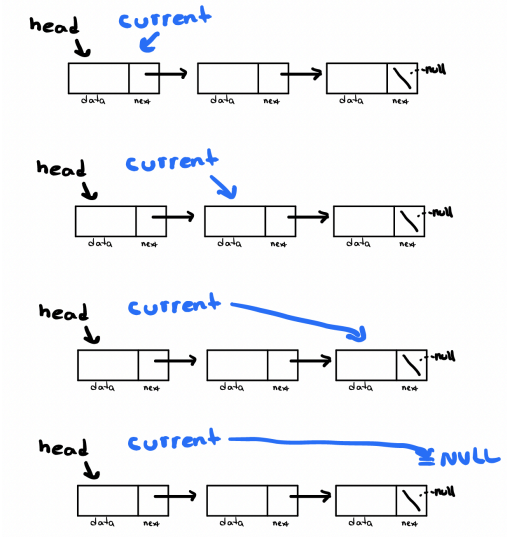
1. What does ADT stand for?
    a. Automatic Data Template
    b. Anonymous Data Template
    c. Abstract Data Type
2. A linked list is different from an array, because
    a. A linked list can handle more types of information than an array
    b. An array cannot be sorted but a linked list can be
    c. An array is fixed in size but a linked list is dynamically sizable
3. What is the proper code for accessing the information of the second item in a linked list?
    a. `head->data`
    b. `head->next->data`
    c. `head->next->next->data`



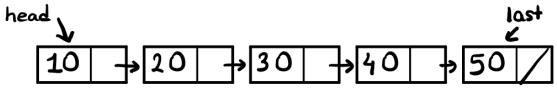
4. What does the following code fragment do with a linked list?

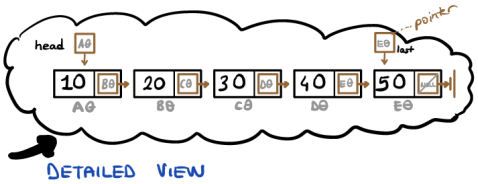
```
current = head;
while(current!=NULL){
      current = current->next;
}
```

    a. It initializes the list
    b. It counts the number of items in the list
    c. It traverses the list



5. Given a singly linked list where each node has one reference point to the next node. Assume the linked list below and provide the output for the following code fragments. This list is restored to its initial state before each line executes:





   a. head->next->next->next->data;

   b. head->data;

   c. head->next;

   d. head->next->next->data;

   e. head->next->data;

   f. last->next;

   g. last->data;

   h. last

a. head->next->next->next->data; 40

b. head->data; 10

c. head->next; B0

d. head->next->next->data; 30

e. head->next->data; 20

f. last->next; NULL

g. last->data; 50

h. last E0