CU Schedules
aagu5057 Guliani

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CSCI 2270 - Gupta, Trivedi, Zagrodzki - CS2: Data Structures

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Started on	Sunday, 17 February 2019, 11:57 PM
State	Finished
Completed on	Monday, 18 February 2019, 12:11 AM
Time taken	13 mins 39 secs
Grade	**8.00** out of 10.00 (**80**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Given the following structure definitions, what is the correct way to print the person's birth year?

```
struct DateType
{
  int day;
  int month;
  int year;
};
struct PersonType
{
  int age;
  float weight;
  DateType birthday;
};



PersonType person;
```

Select one:

○ a. cout << year;

○ b. cout << person.year;

● c. cout << person.birthday.year; ✓

○ d. cout << birthday.year;

The correct answer is: cout << person.birthday.year;

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Incorrect

Mark 0.00 out of 1.00

```
void CalculateCost(int count, float& subTotal, float& taxCost){
       if(count<10){
              subTotal = count * 0.50;
       }
       else{
              subTotal = count * 0.20;
       }
      taxCost = 0.1 * subTotal;
}
int main(){
       float tax = 0.0, subTotal = 0.0;
       CalculateCost(15,subTotal,tax);
       cout<<"The cost for 15 items is"<<subTotal<<", and the tax for"<<subTotal<<"is"
<<tax<<endl;
       return 0;
}
```

Select one:

● a. The cost for 15 items is 3.00, and the tax for 3.00 is 0.00; ✖

○ b. The cost for 15 items is 0.00, and the tax for 3.00 is 0.30;

○ c. The cost for 15 items is 3.00, and the tax for 3.00 is 0.30;

○ d. The cost for 15 items is 0.00, and the tax for 3.00 is 0.00;

The correct answer is: The cost for 15 items is 3.00, and the tax for 3.00 is 0.30;

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Correct

Mark 1.00 out of 1.00

```
struct Node {
  int key;
  Node *next;
};
```

10 -> 20 -> 30 -> 10 -> 10 -> 50 -> 10 -> NULL

What will be the output of following pseudo-code? Consider head is the pointer to the first node of above linked list.

```
Node *walker = head;
int count = 0;
while(walker!= NULL && count < 3) {
        if(walker->key == 10) {
                count = count + 1;
         }
         walker = walker->next;
}
cout <<  walker->key  << endl;
```

Select one:

○ a. 10

○ b. 4

● c. 50 ✓

○ d. 20

Your answer is correct.

The correct answer is: 50

Question **4**

Correct

Mark 1.00 out of 1.00

Assume you're given the following sentence and a Stack class with push and pop operations that push a word onto the stack and pop a word from the stack respectively. **Whenever you pop a word from the stack, you add it to a Message Board to display it.** Process the words in the following sentence from left to right and show what is displayed on the Message Board with words separated by spaces.

"Life is either a daring adventure or nothing"

What is displayed on the **Message Board** after the following sequence of operations:

1. push(Life)
2. push(is)
3. push(either)
4. pop()
5. pop()
6. push(a)
7. pop()
8. push(daring)
9. push(adventure)
10. pop()
11. pop()
12. push(or)
13. push(nothing)
14. pop()

Answer: either is a adventure daring nothing ✓

The correct answer is: either is a adventure daring nothing

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Correct

Mark 1.00 out of 1.00

```
q.enqueue(1);
q.enqueue(5);
q.enqueue(6);
q.dequeue();
q.enqueue(3);
q.enqueue(4);
q.enqueue(8);
q.dequeue();
q.dequeue();
```

Select one:

● a. 3,4,8 ✓

○ b. 1,5,3

○ c. 1,5,6

○ d. 5,6,8

Your answer is correct.

The correct answer is: 3,4,8

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Correct

Mark 1.00 out of 1.00

questions below (queue size is 6):

```
Enqueue(5)
Enqueue(3)
Dequeue( )
Enqueue(12)
Enqueue(9)
Dequeue( )
Dequeue( )
Enqueue(11)
Enqueue(17)
Dequeue()
```

What value does the First dequeue remove from the queue?

5 ✓

What value does the Second dequeue remove from the queue?

3 ✓

What value does the Third dequeue remove from the queue?

12 ✓

What value does the Forth dequeue remove from the queue?

9 ✓

Display the final values in the queue: if there isn't a number in one of the positions, put in a -1.

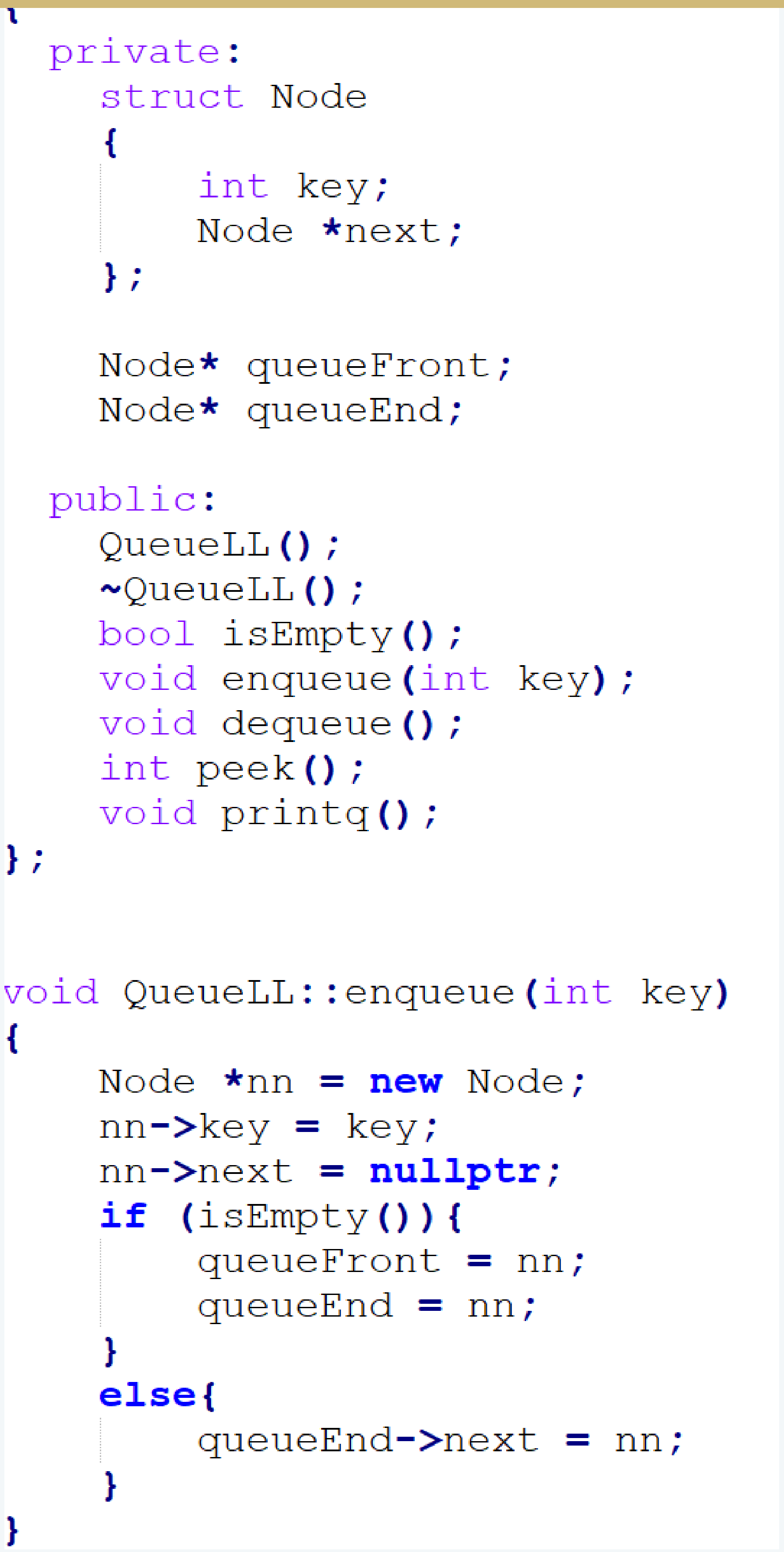
For example, if there's nothing in Q[i], Q[i] = -1

	0	1	2	3	4	5
Q	-1 ✓	-1 ✓	-1 ✓	-1 ✓	11 ✓	17 ✓

Your answer is correct.

Incorrect

Mark 0.00 out of 1.00



```
{
  private:
    struct Node
    {
        int key;
        Node *next;
    };

    Node* queueFront;
    Node* queueEnd;

  public:
    QueueLL();
    ~QueueLL();
    bool isEmpty();
    void enqueue(int key);
    void dequeue();
    int peek();
    void printq();
};


void QueueLL::enqueue(int key)
{
    Node *nn = new Node;
    nn->key = key;
    nn->next = nullptr;
    if (isEmpty()){
        queueFront = nn;
        queueEnd = nn;
    }
    else{
        queueEnd->next = nn;
    }
}
```

What is the problem in this enqueue function ?

Select one:

○ a. QueueEnd doesn't always point to the last element

○ b. This function works without any problem

● c. New element doesn't be pointed ✖

○ d. QueueFront doesn't always point to the first element

Your answer is incorrect.

The correct answer is: QueueEnd doesn't always point to the last element

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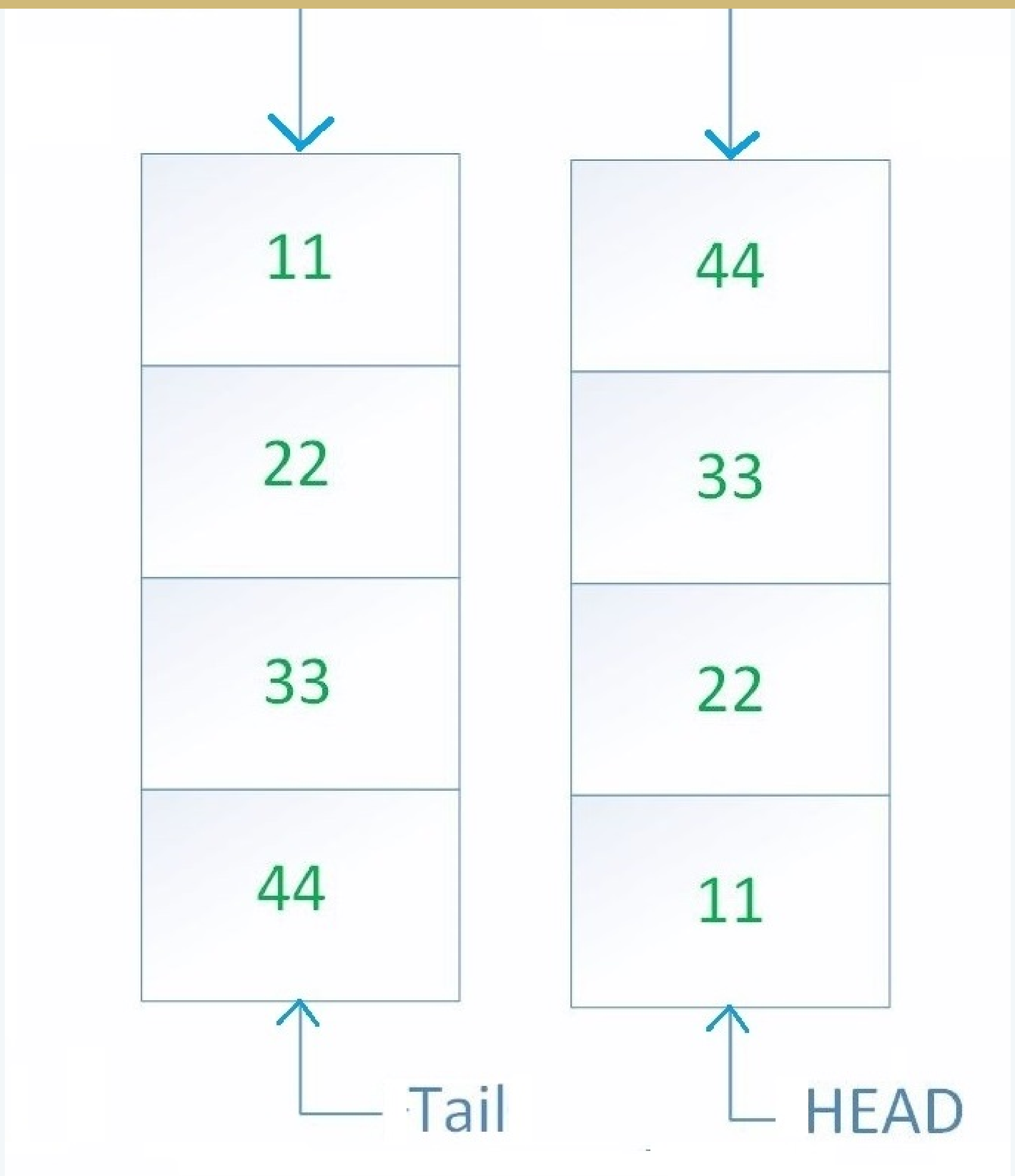
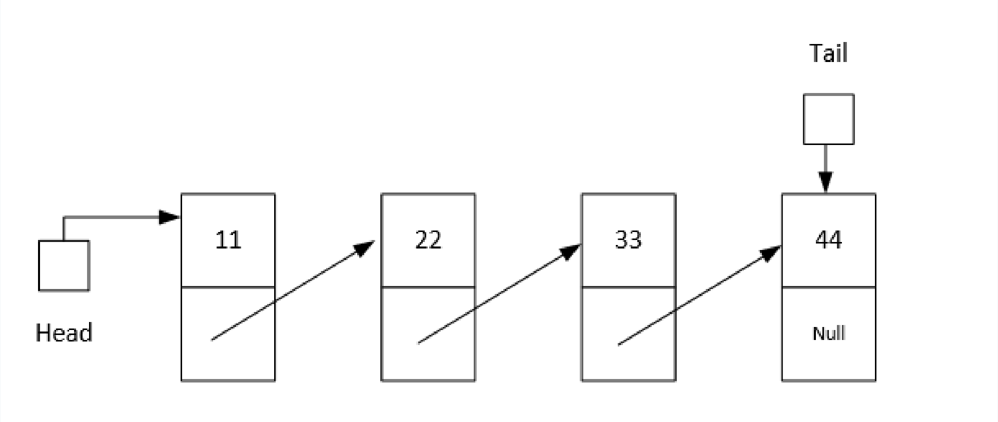
Correct

Mark 1.00 out of 1.00

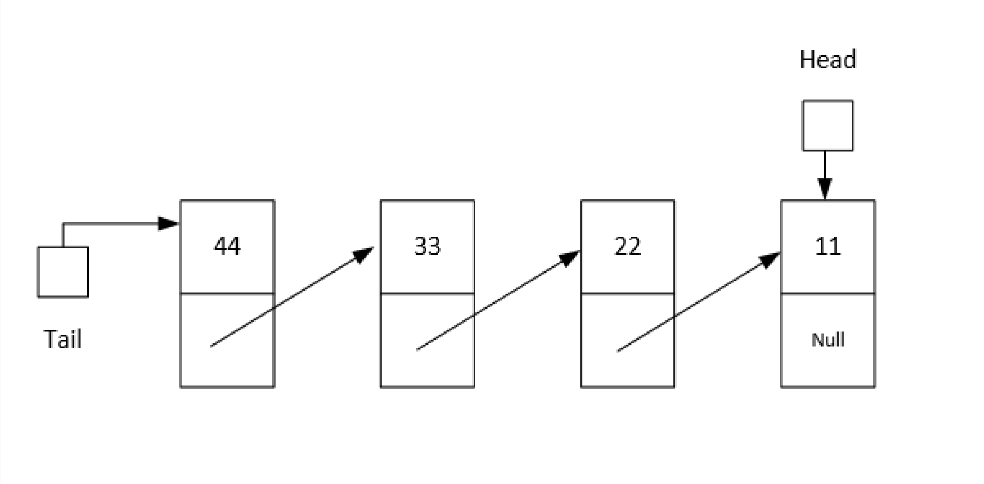


We want to implement this queue by linked list. Which one is more efficient to implement it ? (consider enqueue and dequeue, note that enqueue happens at tail and dequeue happens at head)

Option 1: head->11->22->33->44<-tail



Option 2: tail->44->33->22->11<-head



Select one:

● a. Option 1 ✓

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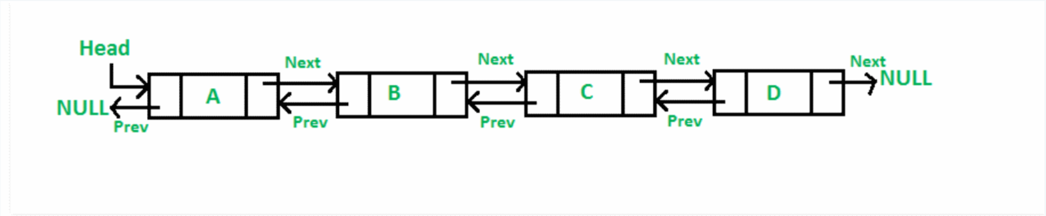
Your answer is correct.

The correct answer is: Option 1

Question **9**

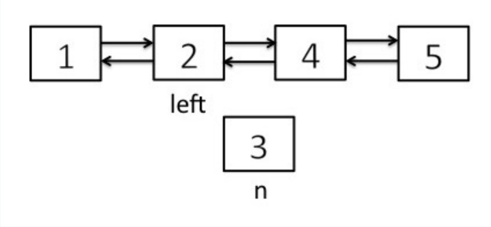
Correct

Mark 1.00 out of 1.00



A **D**oubly **L**inked **L**ist (DLL) contains an extra pointer, typically called *previous pointer*, together with next pointer and data which are there in singly linked list.

Now. You have a list and a node like the ones depicted below. **head** is pointing the node containing **1** and **tail** is pointing the node containing **5**



after the following code runs:

```
n->next=left->next;
left->next->previous = n;
left->next =n;
n->previous =left;
```

what is the order of traversing the list from **tail to head**? Write each number separated by a single space.

Select one:

○ a. seg fault

○ b. 5 4 2 1

○ c. 5 3 2 1

● d. 5 4 3 2 1 ✓

Your answer is correct.

The correct answer is: 5 4 3 2 1

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Correct

Mark 1.00 out of 1.00

insertNode(Node* head, Node* prev, Node* newNode)

where *head* is the head of the list and *newNode* is the node to be inserted?

Select one:

○ a. O(n)

● b. O(1) ✓

○ c. O(n^2)

○ d. a&b

○ e. None of the above.

Your answer is correct.

The correct answer is: O(1)