CSD2181/2183 – Data Structure

Exercises

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Introduction – Data Structure Exercises

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- Purpose: to reinforce what you have learned and practiced in lectures.
- The exercise session is conducted face to face in class.
- It consists of a few MCQs to be solved within class.
- Limited time is given for each question (answer will be discussed afterwards).
- You are required to login to ClassPoint with your student ID.
- So, bring along your laptop or devices with Internet access.
- Attendance is compulsory and there is no make up.
- Exercises are marked considering your overall performance in the module.

Introduction – Data Structure Exercises

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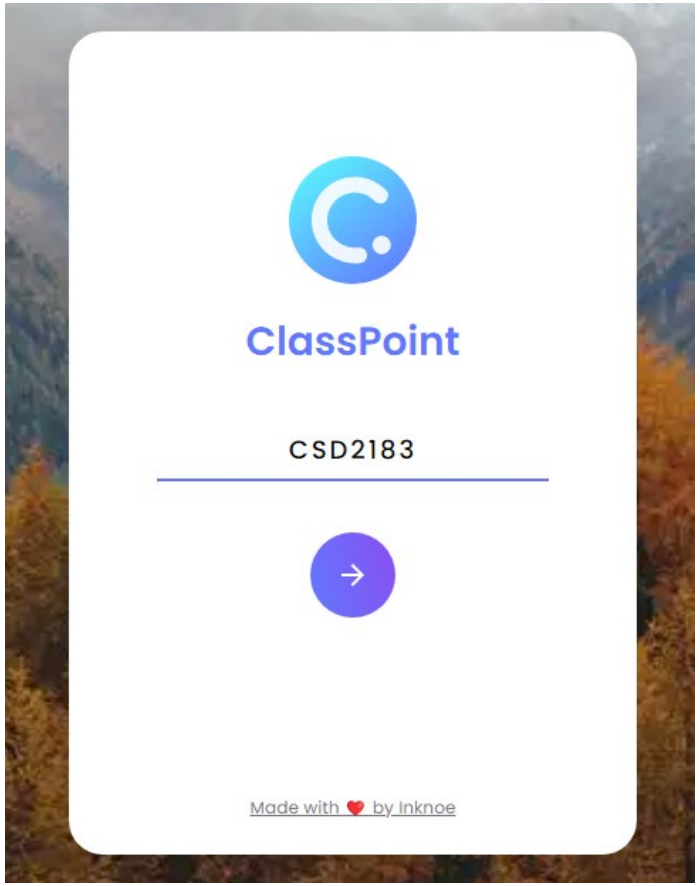
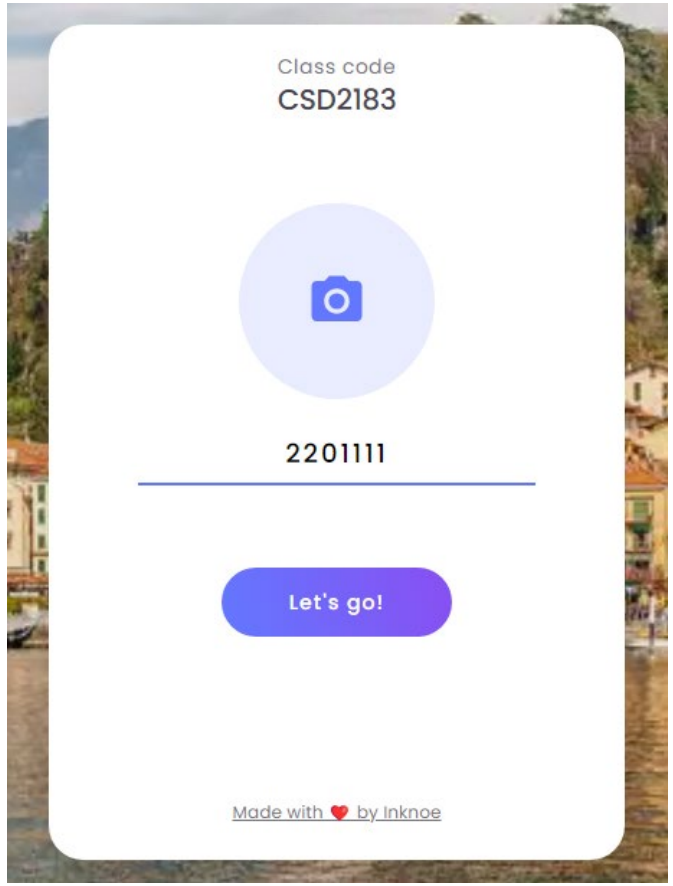
https://www.classpoint.app/





OR

URL
classpoint.app

Class code
CSD2183

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Exercise 4
Abstract Data Types

Exercise 4 – Abstract Data Types

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4.1 What is the correct postfix notation for (1-2) * (3 + 4) + 5 * 6 ?

A. 123456-+**+

B. 12-34+*56*+

C. -12+34**56+

D. 56*34++12-*

Multiple Choice

Exercise 4 – Abstract Data Types

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4.2 What is the result of the following postfix expression?

0 1 - 2 3 + 4 5 6 * - + -

A. -10
B. 10
C. 20
D. -20

Multiple Choice

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4.3 Which is/are the correct implementation(s) of subtraction in postfix evaluation?

A. (1)(3)
B. (2)(3)
C. (1)(2)(3)
D. (3)

Multiple Choice

(1)
```
if(token == '-')
        stack.Push(stack.Pop()-stack.Pop());
```

(2)
```
if(token == '-')
        stack.Push(-stack.Pop()+stack.Pop());
```

(3)
```
int operand2 = stack.Pop();
int operand1 = stack.Pop();
if(token == '-')
        stack.Push(operand1-operand2);
```

Exercise 4 – Abstract Data Types

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4.4 Which is/are the correct implementation(s) of division in postfix evaluation?

A. (1)(3)
B. (2)(3)
C. (1)(2)(3)
D. (3)

Multiple Choice

(1)
```
if(token == '/')
        stack.Push(1/stack.Pop()*stack.Pop());
```

(2)
```
if(token == '/')
        stack.Push(stack.Pop()/stack.Pop());
```

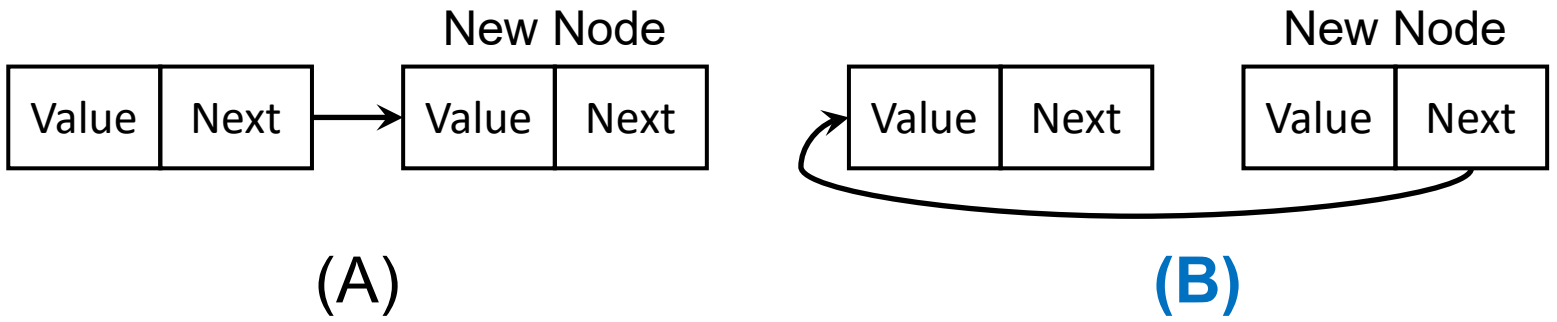
(3)
```
int operand2 = stack.Pop();
int operand1 = stack.Pop();
if(token == '/')
        stack.Push(operand1/operand2);
```

Exercise 4 – Abstract Data Types

4.5 The linked list insert function corresponds to

```
void insert(int value) {
    Node* newNode = new Node(value);
    newNode->next = head;
    head = newNode;
}
```

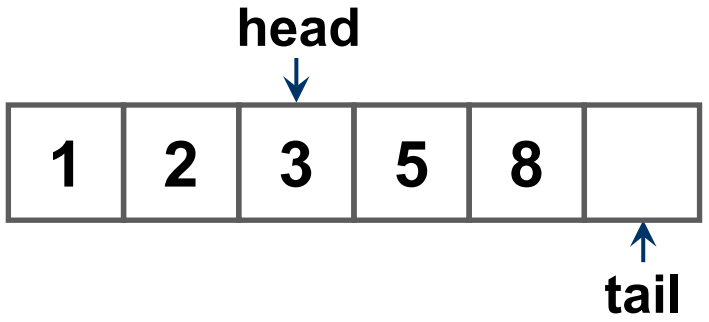
Multiple Choice



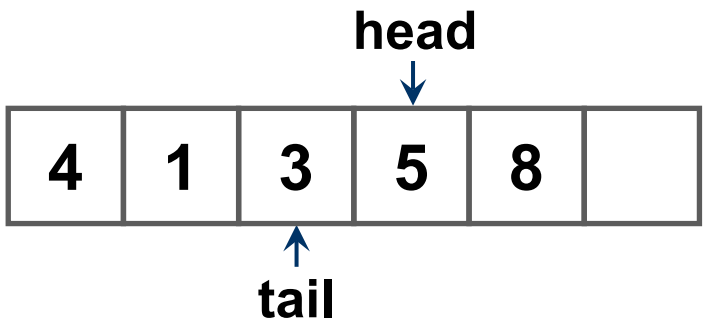
Exercise 4 – Abstract Data Types

4.6 What is the result of the circular array after operations?

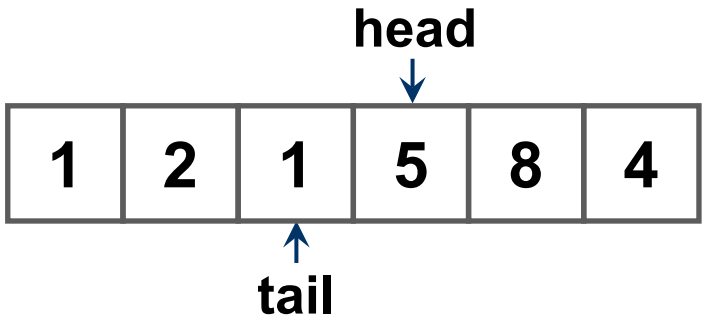
```
Queue.Push(4);
Queue.Pop();
Queue.Push(1);
```



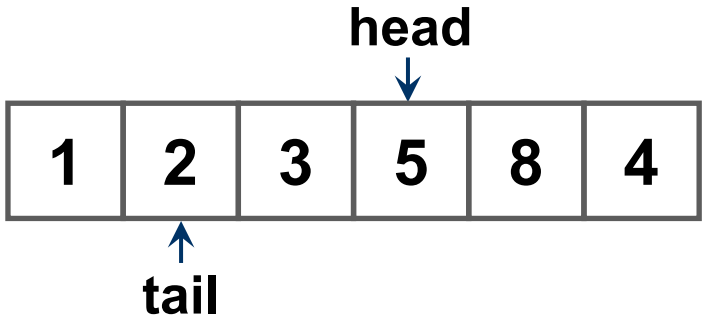
Multiple Choice



(A)



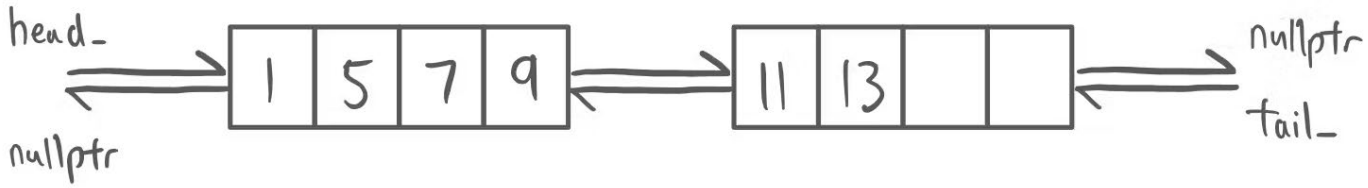
(B)



(C)

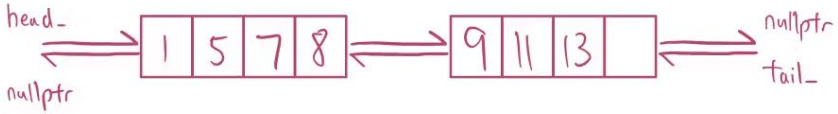
Exercise 4 – Abstract Data Types

4.7 What is the resulting BList?

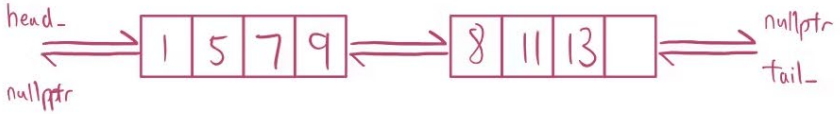


WHAT is the resulting BList after insert(8)?

A)

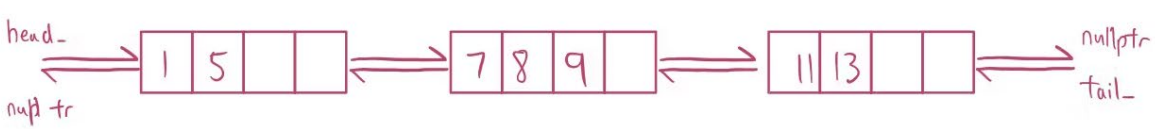


B)



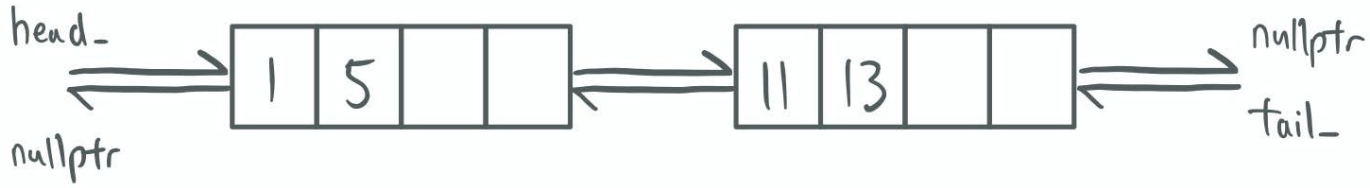
Multiple Choice

C)



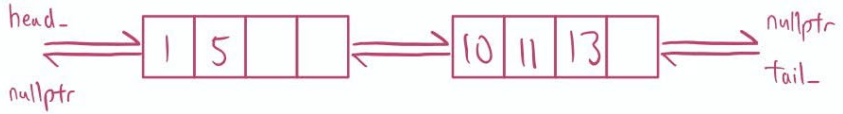
Exercise 4 – Abstract Data Types

4.8 What is the resulting BList?

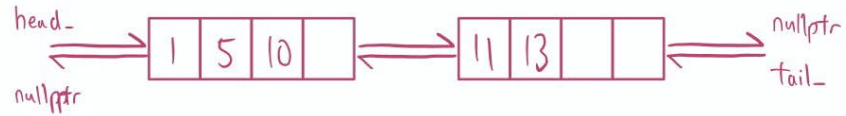


WHAT is the resulting BList after insert(10)?

A)



B)



C)

Multiple Choice

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The End