

CS1356 Introduction to Information Engineering

Quiz 10, 2010/12/20

Your name _____ Student ID _____

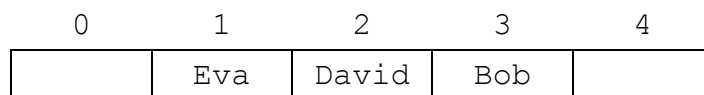
1. Please use the following statements to complete the stack implement (6*10%)

- (a) return true
- (b) return false
- (c) IsEmpty() is true
- (d) IsEmpty() is false
- (e) Array[Top] = input
- (f) return Array[Top]
- (g) Top = Top - 1
- (h) Top = Top + 1

<pre> InitStack() { Top = -1; } IsEmpty() { If Top is -1 then (1) <u>(a)</u> Else (2) <u>(b)</u> } </pre>	<pre> Push(input) { Top = Top + 1; (3) <u>(e)</u> } Pup() { If (4) <u>(c)</u> then Return "stack is empty"; Else { (5) _____ (6) _____ } } </pre>
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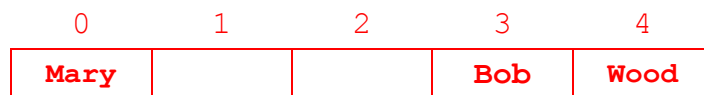
The correct answers are:
 (5) Top = Top-1
 (6) return Array[Top+1]
 Because there is no such option, points will be given if your answers are any two of (f), (g) or (h).

2. A circular queue implementation uses an array of size 5. **Head** is the index of the **earliest element** in queue, and **tail** is the index that the **next input should be placed** in queue. Suppose that **number of elements in queue is 3**, and **head is 1, tail is 4**. Answer the following questions. (Two questions are independent.)



(1) What the elements in array, the value of head and the value of tail are after (a)(b)(c)(a)?

- (a) Dequeue (b) Enqueue(Wood) (c) Enqueue(Mary) (3*10%)



Head = 3

Tail = 1

(2) Use the following **pre-defined statements** to print **"Bob David Eva"**: (10%)

- (a) Temp=Dequeue (b) Enqueue(Temp) (c) print Temp

a, b, a, b, a, c ————— print "Bob"
 a, b, a, c ————— print "David"
 a, c ————— print "Eva"