Data Structures and Algorithms- Quiz 2

Question 1

2 / 2 pts

1. A stack is implemented with an array of A[0..n-1] and variable 'pos', the push and pop operations are defined by following code.

which of the following will initialize an empty stack with capacity n for the above implementation?

Push(x)

  A[pos]=x

  pos=pos-1

end push

pop()

  pos=pos+1

  return A[pos]

end pop

- ◉ pos=n-1
- ○ pos=0
- ○ pos=n+1
- ○ pos=-1

Question 2

2 / 2 pts

A single array A[1..maxsize] used to implement two stacks. The two stacks grows from opposite end of the array. Variables top1 and top 2(top1<top2) point to the location of the topmost element in each of the stacks, if the space is used efficiently, the condition for full stack is

- ○ top1=maxsize/2 and top2=maxsize/2+1
- ○ top1+top2=maxsize
- ○ top1= maxsize/2 or top2=maxsize
- ◉ top1= top2-1

Question 3

2 / 2 pts

If the sequence of operations push(1),push(2),pop,push(1),push(2),pop,pop,pop,push(2),pop are performed on stack, the sequence of popped out values.

- ○ 12221
- ○ 22121
- ◉ 22112
- ○ 11221

Question 4

1 / 1 pts

What is the result of postfix expression evaluation 10 5 + 60 6 / *5 −

- ◉ 145
- ○ 284

○ 71

○ 214

Question 5

1 / 1 pts

Queue is a data structure which follows:

● FIFO

○ FOLI

○ None of these

○ LIFO

Question 6

1 / 1 pts

The end in which the deletion operation takes place in the queue is called

○ tail

● front

○ rear

○ top

Question 7

1 / 1 pts

Select the postfix equivalent of (10-7)+2

● 10 7 – 2 +

○ -10 7 + 2

○ 10 7 + 2 –

○ + - 10 7 2

Question 8

2 / 2 pts

Consider the following operations on an empty stack and queue.

Push(55)	enqueue(20)
Push(62)	enqueue(24)
Pop()	dequeue()
Push(68)	enqueue(30)
Push(62)	enqueue(32)
s=pop()	q= dequeue()

what is s-q?

○ 32

○ 64

○ 84

● 38

Question 9

1 / 1 pts

Which one of the following is an application of Queue Data Structure?

- ○ Load Balancing

- ○ When data is transferred asynchronously (data not necessarily received at same rate as sent) between two processes

- ○ When a resource is shared among multiple consumers.

- ◉ All these

Question 10

1 / 1 pts

The conversion of infix to postfix can be done by using

- ○ queue

- ○ graph

- ◉ stack

- ○ tree

Question 11

2 / 2 pts

What is the result of the following operation?
Top (Push (S, Y)) , where S is stack and Y is an element.

- ○ YS

- ○ Y+S

- ◉ Y

- ○ S

Question 12

1 / 1 pts

Which application of stack is used to ensure that the pair of parentheses is properly nested?

- ○ None of these

- ◉ Balancing symbols

- ○ Reversing a stack

- ○ Conversion of infix expression to postfix expression