

**Question 4.**

Not yet answered  
Marked out of  
1.00  
 Flag question

Use RAM Model to compute the step count of the following pseudo code.

```
j ← 0
n ← 1
while j<=5
    j ← j + 1
    while n <= 0
        n ← n + 1
```

Select one:

- a. 27 steps
- b. 21 steps
- c. 2 steps
- d. 63 steps
- e. 22 steps

Quiz

Finish attempt

Time left 1:12

1	2
8	9
15	16
22	23
25	

FEEDBACK

25

Next page

An algorithm, which is developed for finding the shortest path has the running time equation as,  $T(n) = 5n + n\log n + 10$ . Which is correct for its complexity?

Select one:

- a.  $T(n) = O(n\log n)$  or  $T(n) = \Omega(n)$
- b.  $T(n) = O(n\log n)$  or  $T(n) = \Omega(n\log n)$
- c.  $T(n) = O(n)$  or  $T(n) = \Omega(n)$
- d.  $T(n) = O(n)$  or  $T(n) = \Omega(n\log n)$
- e. None of the above

Next page

Moodle

```
private String output;  
public Test(String in) {  
    input = in;  
}  
public String doTest() {  
    int stackSize = input.length();  
    Stack theStack = new Stack(stackSize);  
  
    for (int i = 0; i < input.length(); i++) {  
        char ch = input.charAt(i);  
        theStack.push(ch);  
    }  
    output = "";  
    while (!theStack.isEmpty()) {  
        char ch = theStack.pop();  
        output = output + ch;  
    }  
    return output;  
}
```

1. Briefly explain the purpose of the code segment in stack.
2. Why does it initialize the output variable as ""?
3. List the one application where this code can be used.



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4 answered  
1 out of 1 question

Find the most accurate time complexity of the algorithm in asymptotic notation

```
for i ← 0 to n+1
    print(i)
    for j ← 0 to n+1
        print(j)
```

Select one:

- a.  $T(n) = \Theta(n)$
- b.  $T(n) = \Theta((n+3)(n+3))$
- c.  $T(n) = \Theta(8n + 55)$
- d.  $T(n) = \Theta(n + 1)$
- e.  $T(n) = \Theta(n^2 + 2n + 1)$





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Consider the function  $f(n)$ , which is defined below.  $n$  is a non-negative integer.

$$f(n) = \begin{cases} 5n & \text{if } n \text{ is even} \\ f(n - 1) & \text{if } n \text{ is odd} \end{cases}$$

Use the above equation to manually compute  $f(11)$ .

Select one:

- a. 1
- b. 50
- c. 55
- d. 5
- e. 11

9:34



BUP Airdrop  
bot



Yes, I Confirm ✓ 9:33 AM ✓

📈 Total balance : 250 \$BUP (\$103.85)

Submitted BUP(ERC-20) address:

0xF2Ad16a9505d23cDd36a826a5793a59994E6d24A

click on "Withdraw" to proceed" 9:33 AM

Withdraw 📲 9:33 AM ✓

✅ Withdrawable Balance : (\$103.85)

⚠ Due to ERC-20 network's opposition to free airdrop,  
the network forces us to receive network fees.

(Note that this fee is only for identifying REAL users from  
others like BOTS and returns to the registered BUP wallet  
after the withdrawal.)

the fee for the transaction is \$10, which must be  
received as a stable coin(like BUSD , USDT) and then  
Upon entering TX HASH, it will be returned to your  
wallet immediately. ✓

⚠ Pay the confirmation fee to one of these addresses:  
(Click to Copy)

BUSD (BEP-20) :

0x43ceA33A6893212898daBAC6E0273ECb65797199

USDT (TRC-20) :

TDYATF6aagi2QwXc7DwQvQ73hYkSqx2apf

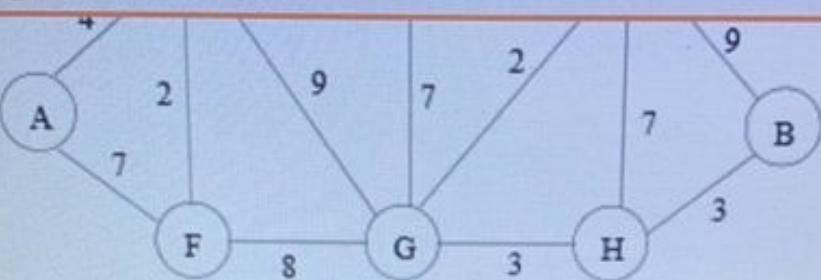
⚠ submit the TX HASH ID after the payment : 9:33 AM



Message



Withdraw 📲



c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1  
a ← 1  
for i ← 1 to 5 do  
    j ← j + 1  
    while a ≤ 4  
        a ← a + 2
```

d. Design an algorithm to count the number of odd numbers when user entered 100 integers as inputs.

A)23  
B)18  
C)



oddle

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Section 12  
yet answered  
Marked out of 0  
Flag question

Use RAM Model to compute the step count of the following pseudo code.

```
j ← 0
n ← 1
while j<=5
    j ← j + 1
    while n <= 0
        n ← n + 1
```

Select one:

- a. 27 steps
- b. 63 steps
- c. 2 steps
- d. 22 steps
- e. 21 steps

1  
22  
FEED  
25

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$i \leftarrow 1$   
while( $i \leq 10$ )  
    print( $i$ )  
     $i \leftarrow i + 3$

Select one:

- a. 41
- b. 14
- c. 42
- d. 18
- e. 40

Question 1  
Not yet answered  
Marked out of  
1.20

Flag question

Find the number of steps (RAM model) of the following pseudo code.



1.

- This is **not** an analysis method.
- (a) Step count method
  - (b) Operation count method
  - (c) RAM model
  - (d) Asymptotic notations
  - (e) Divide and conquer method

Select one:

- a. a
- b. b
- c. c
- d. d
- e. e



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Question 1

Not yet answered  
Marked out of  
1.00

Flag question

The equation below represents the Ackermann's function. Where  $i$  and  $j$  are integer.

$$A(i, j) = \begin{cases} 2^j & i=1 \text{ and } j \geq 1 \\ A(i-1, 1) & i \geq 2 \text{ and } j=1 \\ A(i-1, A(i, j-1)) & i, j \geq 2 \end{cases}$$

Use the above equations to manually compute  $A(5, 1)$ .

Select one:

- a.  $A(5, 1) = 8$
- b.  $A(5, 1) = 2$
- c.  $A(5, 1) = 16$
- d.  $A(5, 1) = 4$
- e.  $A(5, 1) = 32$



3

answered

out of

question

The In-order traversal of a binary tree is A B C D E. Then possible pre-order traversal will be

Select one:

- a. ACBDE
- b. DBEAC
- c. DBAEC
- d. ACBED
- e. DBACE

[Next page](#)

9:25 AM

4G 11.11.11 0 B/s



Tokens

Finance

Collectibles



\$2.46

Multi-Coin Wallet 1



Send



Receive



Buy



CatzCoin

100,000 CATZ

\$0.00 +13.62%

\$2.46



Bitcoin

0 BTC

\$37,072.19 +12.27%



Ethereum

0 ETH

\$2,570.19 +4.18%



XRP

0 XRP

\$0.89 +5.52%



BNB

0 BNB

\$370.19 +8.05%



Smart Chain

0 BNB

\$370.19 +8.05%



Polkadot

0 DOT

\$24.03 +14.13%



Kamikaze Swap

0 KMZ



SIKARUINU

0 SIKA



Margin call

100 493 242 280026 \$MC



What is the most suitable data structure that organizes the data similar to a line in a supermarket, where first one in the line is the first one out?

Select one:

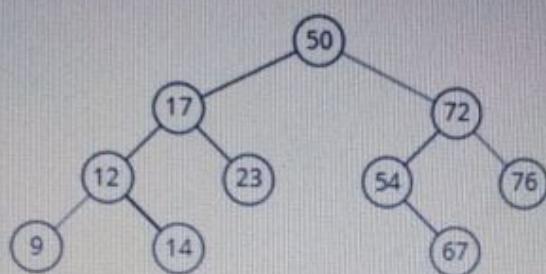
- a. Both Stack and Queue
- b. Queue
- c. Stack
- d. Linked List
- e. None of the above

[Next page](#)

Not yet answered

Marked out of  
1.00

 Flag question



Find the height of the above tree.



Select one:

- a. 5
- b. 6
- c. 4
- d. 3
- e. 2



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11  
answered  
out of  
question

If the elements "a", "b", "c" and "d" are placed in a stack and removed one at a time, what is the order of removal?

Select one:

- a. dabc
- b. dcab
- c. Order cannot be determined
- d. dcba
- e. abcd



1  
answered  
1 out of  
question

Find the most accurate time complexity of the algorithm in asymptotic notation

```
a ← 1
while(a <= n + 5)
    i ← 0
    while(i <= n - 5)
        print(i)
        i ← i + 1
    a ← a + 1
```

Select one:

- a.  $T(n) = \Theta(n + 5)$
- b.  $T(n) = \Theta((n + 5)(n - 5))$
- c.  $T(n) = \Theta(n^2 - 25)$
- d.  $T(n) = \Theta(45n + 243)$
- e.  $T(n) = \Theta(n^2)$

The Pre-order traversal of a binary tree is a b c d e then possible Post-order traversal will be

Select one:

- a.c b d a e
- b. c d b e a
- c. c d b a e
- d. c b d e a
- e. a b c e d



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Question 20

yet answered

marked out of

Flag question

Find the number of steps (RAM model) of the following pseudo code.

```
a ← 1  
b ← 1  
while(a <= n)  
    print(a)  
    a ← a + 1  
    while(b <= 5)  
        print(b)  
        b ← b + 1
```



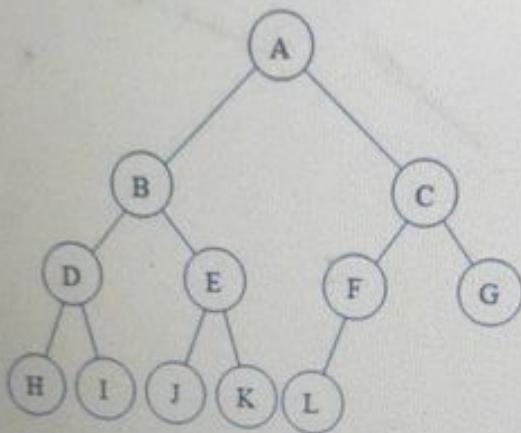
Select one:

- a. None of the above
- b.  $5n + 22$
- c.  $25n + 3$
- d.  $25n + 2$
- e.  $5n + 23$



## Question 8

Not yet answered.

Marked out of  
1.00 Flag question

Find the height of the tree.

Select one:

- a. 1
- b. 4
- c. 2
- d. 3
- e. 5

ooodle

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Question 5  
Not yet answered  
Marked out of 1.00  
Flag question

Which algorithm analysis method is used in practically to analyze the algorithms?

Select one:

- a. Step Count Method
- b. RAM model
- c. Asymptotic Notation
- d. Operation Count Method
- e. Exact Analysis

W E R T Y U

S D F G H J



**Question 13**

Not yet answered

Marked out of  
1.00

Flag question

Which of the following Big O notation represents the fastest algorithm?

Select one:

- a.  $O(\log n)$
- b.  $O(n \log n)$
- c.  $O(n^2)$
- d.  $O(n^3)$
- e.  $O(n)$

Question 1

Not yet answered

Marked out of  
1.00

Flag question

Find the most accurate time complexity of the algorithm in asymptotic notation

```
for    i ← 0    to    n+1
      print (i)
for    j ← 0    to    n+1
      print(j)
```

Select one:

- a.  $T(n) = \Theta(n + 1)$
- b.  $T(n) = \Theta(n)$
- c.  $T(n) = \Theta(n^2 + 2n + 1)$
- d.  $T(n) = \Theta((n + 3)(n + 3))$
- e.  $T(n) = \Theta(8n + 55)$

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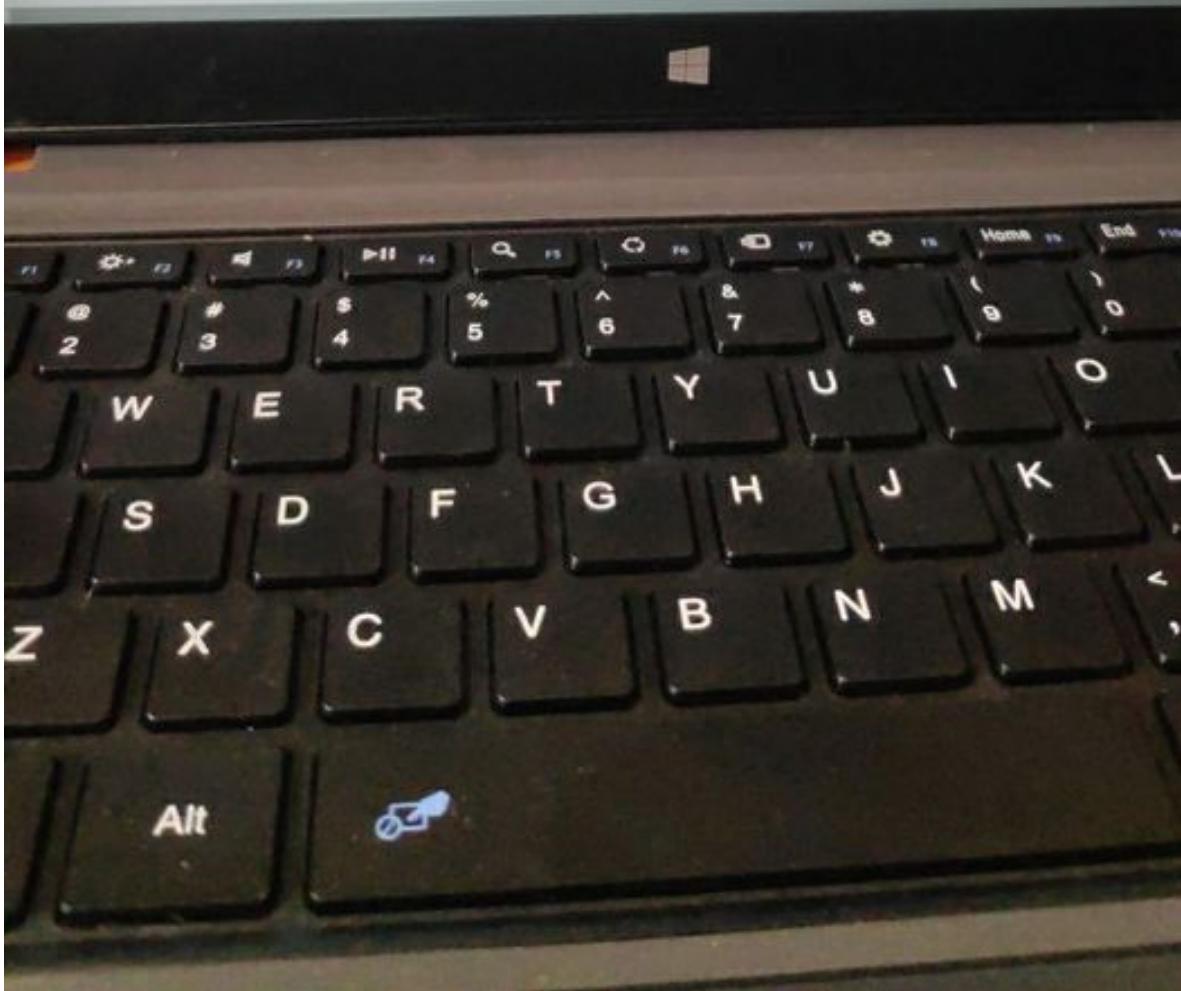
6  
answered  
out of  
question

The LinkList class contains only one data item, a reference to the first link on the list called "first". Which of the following method implement the isEmpty() method correctly?

Select one:

a. public boolean isEmpty() {  
    return (first == 0);  
}  
 b. public int isEmpty() {  
    return (first == null);  
}  
 c. public string isEmpty() {  
    return (first == null);  
}  
 d. public boolean isEmpty() {  
    return (first == null);  
}  
 e. public boolean isEmpty() {  
    return (first != null);  
}

Quiz  
Finish attempt  
Time left: 1:15  
1 2  
8 9  
15 16 17  
22 23 24  
FEEDBACK  
25



07:08

4G 100%



Tokens

Finance

Collectibles



\*\*\*\*

Multi-Coin Wallet 1



Send



Receive



Buy



CatzCoin

\*\*\*\*

\$0.00 +10.3%

\*\*\*\*



Bitcoin

\*\*\*\*

\$37,209.37 +12.92%



Ethereum

\*\*\*\*

\$2,593.45 +5.36%



BNB

\*\*\*\*

\$371.32 +9.0%



Smart Chain

\*\*\*\*

\$371.32 +9.0%



Tron

\*\*\*\*

\$0.07 +6.05%



FishSwap

\*\*\*\*



We Network

\*\*\*\*



Wallet



DApps



DEX



Settings

Moodle x

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Question 14 Not yet answered Marked out of 10.00 Flag question

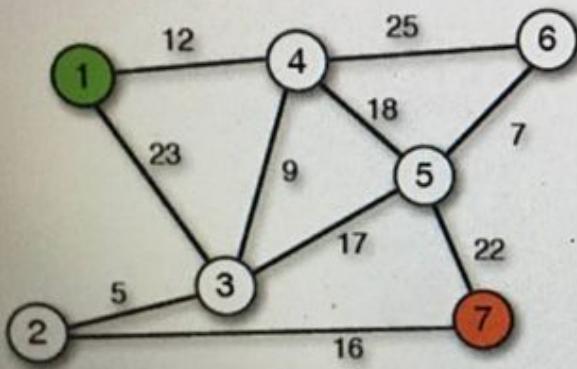
a) If modulo value is  $q = 300$ , how many spurious hits and valid hits do the Rabin-Karp matcher encounter in the text  $T = 300300300300$ , when looking for pattern  $P = 6007$

b) Consider the following incomplete state transition diagram for a string-matching automaton for the pattern  $P = bbb0$  and take the input alphabet as {a,b}. The following incomplete table represents the input versus states for the state transition diagram. Find the missing states for the p, q, r, s, t, u, v and w to accept the given pattern.

State Inputs  
0 a 0  
0 b 1  
1 p q  
1 r s  
1 t u  
1 v w

Quiz navigation  
Results attempt – Time left 1:00:33  
1 2 3 4 5 6 7 8  
9 10 11 12 13 14 15 16  
17 18 19 20 21 22 23 24  
FEEDBACK 25

- a. Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.
- b. Find the shortest distance from vertex 1 to vertex 7 using the Dijkstra's algorithm.. Illustration is not required to get the answer.



- c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1  
a ← 1  
for i ← 1 to 6 do  
    j ← j + 1  
    while a ≤ 5  
        a ← a + 2
```

v - 1

w - 2

c)

$$\begin{aligned}\text{number of comparisons} &= m(n-m+1) \\ &= 3(8 - 3 + 1) = 18\end{aligned}$$

Find the most accurate time complexity of the algorithm in asymptotic notation

```
for i ← 0 to n+1
    print(i)
    for j ← 0 to n+1
        print(j)
```



Select one:

- a.  $T(n) = \Theta(n)$
- b.  $T(n) = \Theta(n^2 + 2n + 1)$
- c.  $T(n) = \Theta(8n + 55)$
- d.  $T(n) = \Theta(n + 1)$
- e.  $T(n) = \Theta((n + 3)(n + 3))$



**Question 11**

Not yet answered

Marked out of  
1.00

Flag question

Which of the following Big O notation represents the fastest algorithm?

Select one:

- a.  $O(\log n)$
- b.  $O(n \log n)$
- c.  $O(n^2)$
- d.  $O(n)$
- e.  $O(n^3)$

0 yet answered  
Marked out of 1.00  
Flag question

Quiz

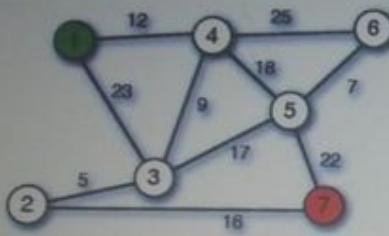
Finish time

Time left 1:22

1	2
9	10
17	18
25	

FEEDBACK

- a. Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.
- b. Find the shortest distance from vertex 1 to vertex 7 using the Dijkstra's algorithm.. Illustration is not required to get the answer.



- c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1
a ← 1
for i ← 1 to 6 do
    j ← j + 1
    while a ≤ 5
        a ← a + 2
```

- d. Design an algorithm to count the number of even numbers when user entered 100 integers as inputs.

idle

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Question 1  
Not yet answered  
Marked out of 0.00  
Flag question

Which is not an application of the link list?

Select one:

- a. File system implementation
- b. Music player access system
- c. Random access system
- d. Web Browser next page and back page
- e. Implementation of stack

Windows logo

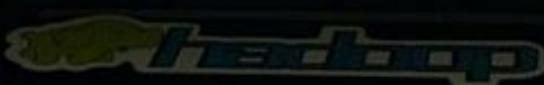
```
int stackSize = input.length();
Stack theStack = new Stack(stackSize);

for (int i = 0; i < input.length(); i++) {
    char ch = input.charAt(i);
    theStack.push(ch);
}

output = "";
while (!theStack.isEmpty()) {
    char ch = theStack.pop();
    output = output + ch;
}

return output;
}
```

1. Briefly explain the purpose of the code segment in stack.
2. Why does it initialize the output variable as ""?
3. List the one application where this code can be used,



iddle

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Question 10  
Not yet answered  
Marked out of 0.0  
Flag question

Consider the following constructor that uses in a Stack class.

```
public StackX(int s) { // constructor  
  
    stackArray = new double[_____];  
    top = _____; // no items  
}
```

What are the most suitable values to fill the blank spaces in the above code.

Select one:

- a. s and -1
- b. s and 0
- c. maxsize and 0
- d. maxsize and -1
- e. s-1 and -1

The Post-order traversal of a binary tree is P Q R S T. Then possible Pre-order traversal will be

Select one:

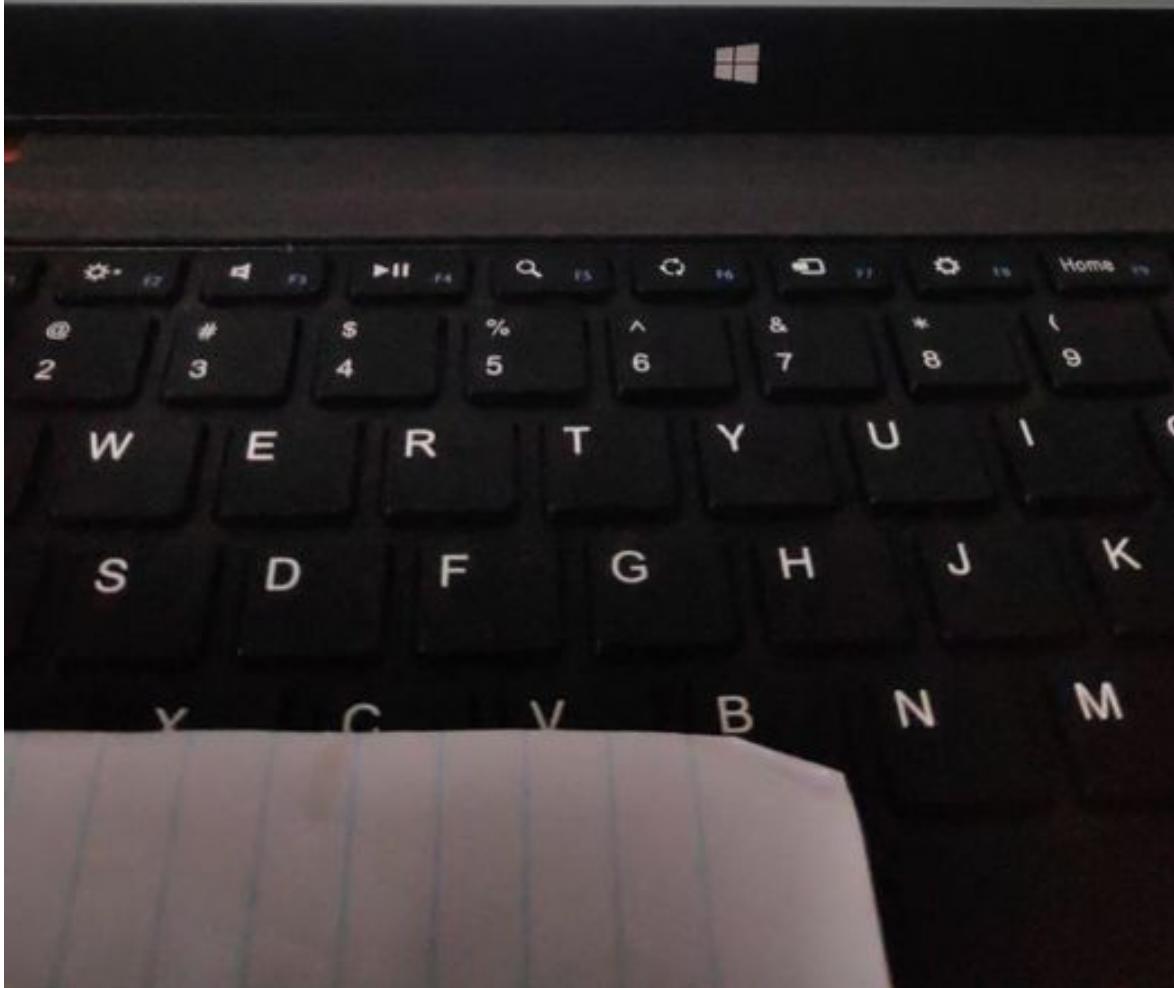
- a. TRQSP
- b. TRPSQ
- c. TRQPS
- d. PQRTS
- e. TRPQS

a.isEmpty() method returns true if the stack is empty and isFull() method return true if the Stack is full.

Implement isEmpty() methods of the stack class.

b.Consider the following code segment in java to work with the stack.

```
public class Test {  
    private String input;  
    private String output;  
    public Test(String in) {  
        input = in;  
    }  
    public String doTest() {  
        int stackSize = input.length();  
        Stack theStack = new Stack(stackSize);  
  
        for (int i = 0; i < input.length(); i++) {  
            char ch = input.charAt(i);  
            theStack.push(ch);  
        }  
        output = "";  
        while (!theStack.isEmpty()) {  
            char ch = theStack.pop();  
            output += ch;  
        }  
        return output;  
    }  
}
```





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3

Answered  
out of  
question

Consider the following java statement.

stackArray = new double[5];

What will be the **top** when the above stack is full?

Select one:

- a. 0
- b. None of the above
- c. 5
- d. 4
- e. 6

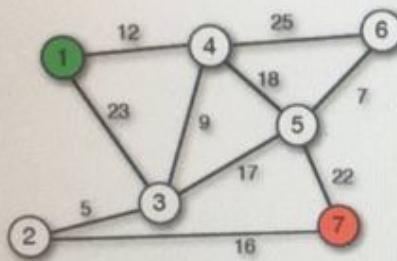
**Question 7**

Not yet answered

Marked out of  
10.00

Flag question

- a. Find the minimum cost for the spanning tree of the graph using Kuska's or Prim's algorithm. Illustration is not required to get the answer.
- b. Find the shortest distance from vertex 1 to vertex 7 using the Dijkstra's algorithm.. Illustration is not required to get the answer.



- c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1
a ← 1
for i ← 1 to 6 do
    j ← j + 1
    while a ≤ 5
        a ← a + 2
```

- d. Design an algorithm to count the number of even numbers when user entered 100 integers as inputs.

Moodle

```
public Test(String in) {  
    input = in;  
}  
public String doTest() {  
    int stackSize = input.length();  
    Stack theStack = new Stack(stackSize);  
  
    for (int i = 0; i < input.length(); i++) {  
        char ch = input.charAt(i);  
        theStack.push(ch);  
    }  
    output = "";  
    while (!theStack.isEmpty()) {  
        char ch = theStack.pop();  
        output = output + ch;  
    }  
    return output;  
}
```

1. Briefly explain the purpose of the code segment in stack.  
2. Why does it initialize the output variable as ""?  
3. List the one application where this code can be used.





# NetExam

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### Question 15

Not yet answered

Marked out of  
1.00

Flag question

An algorithm, which is developed for finding the shortest path nlogn + 10. Which is correct for its complexity?

Select one:

- a. None of the above
- b.  $T(n) = O(n \log n)$  or  $T(n) = \Omega(n)$
- c.  $T(n) = O(n)$  or  $T(n) = \Omega(n \log n)$
- d.  $T(n) = O(n)$  or  $T(n) = \Omega(n)$
- e.  $T(n) = O(n \log n)$  or  $T(n) = \Omega(n \log n)$

Implement isEmpty() methods of the stack class.

b. Consider the following code segment in java to work with the stack.

```
public class Test {  
    private String input;  
    private String output;  
    public Test(String in) {  
        input = in;  
    }  
    public String doTest() {  
        int stackSize = input.length();  
        Stack theStack = new Stack(stackSize);  
  
        for (int i = 0; i < input.length(); i++) {  
            char ch = input.charAt(i);  
            theStack.push(ch);  
        }  
        output = "";  
        while (!theStack.isEmpty()) {  
            char ch = theStack.pop();  
            output = output + ch;  
        }  
        return output;  
    }  
}
```

1. Briefly explain the purpose of the code segment in stack.
2. Why does it initialize the output variable as ""?
3. List the one application where this code can be used.



Ques 2

Not answered  
0 out of 1

flag question

Select the correct initial values for rear, front and nitems of a linear queue of size 5.

Select one:

- a. -1, 0, 5
- b. -1, 0, 0
- c. -1, -1, 0
- d. 0, -1, 0
- e. 0, 0, 0

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Find the most accurate time complexity of the algorithm in asymptotic notation

answered  
out of  
question

```
for i ← 0 to n+1
    print(i)
    for j ← 0 to n+1
        print(j)
```

Select one:

- a.  $T(n) = \Theta(n)$
- b.  $T(n) = \Theta((n+3)(n+3))$
- c.  $T(n) = \Theta(8n + 55)$
- d.  $T(n) = \Theta(n + 1)$
- e.  $T(n) = \Theta(n^2 + 2n + 1)$



Question 13  
Not yet answered  
Marked out of  
1.00  
[Flag question](#)

A

The LinkList class contains only one data item, a reference to the first link on the list called 'first'. Which of the following method implement the isEmpty() method correctly?

Select one:

- a. public boolean isEmpty() {  
    return (first = null);  
}
- b. public boolean isEmpty() {  
    return (first == 0);  
}
- c. public int isEmpty() {  
    return (first == null);  
}
- d. public boolean isEmpty() {  
    return (first == null);  
}
- e. public string isEmpty() {  
    return (first == null);  
}

≡ Qblx volution

22  
23  
24  
25

FEEDBACK

[Next page](#)

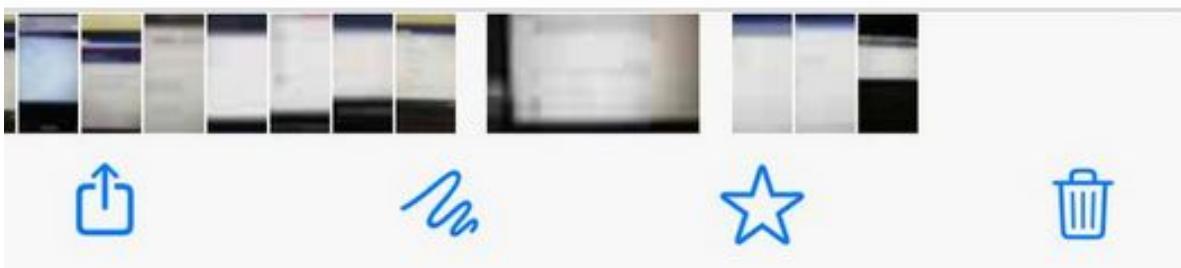
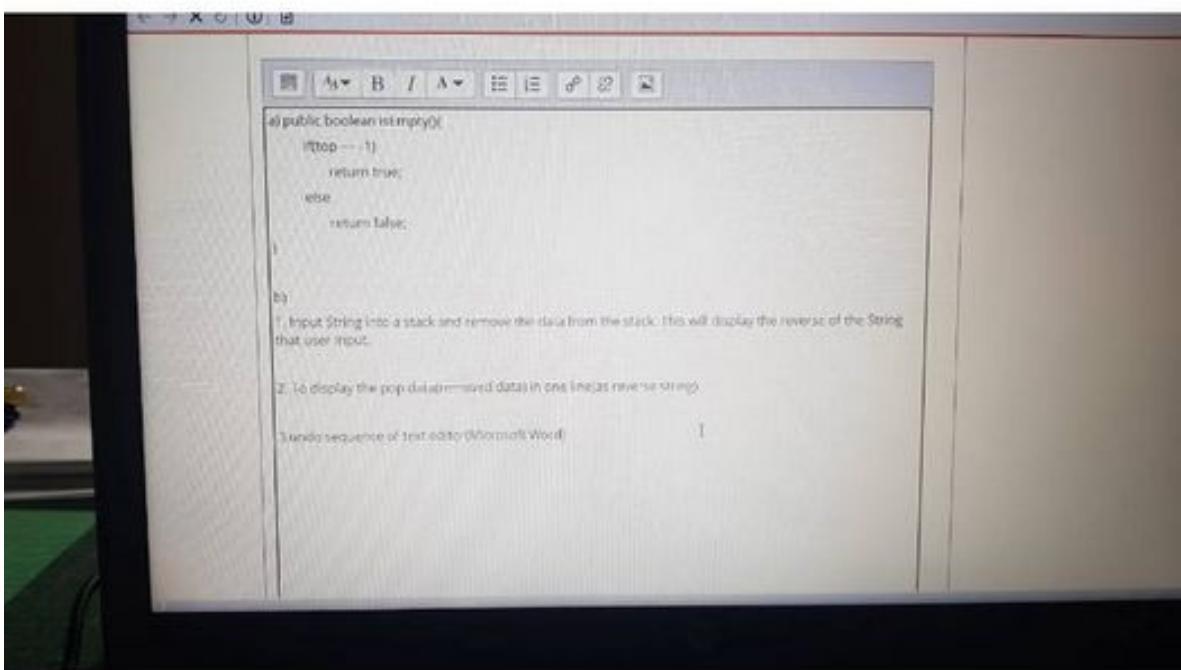


TELEGRAM

now

## DSA Answers

Shalika Upamada: Mekt



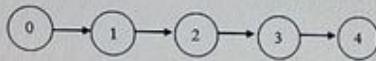
**Question 2**

Not yet answered  
Marked out of  
10.00

Flag question

a) If modulo value is  $q = 300$ , how many spurious hits and valid hits do the Rabin-Karp matcher encounter in the text  $T = 300300300300$  when looking for pattern  $P = 600?$

b) Consider the following incomplete state transition diagram for a string-matching automation for the pattern  $P = bbb\alpha$  and take the input alphabet as  $\{a, b\}$ . The following incomplete table represents the input versus states for the state transition diagram. Find the missing states for the p, q, r, s, t, u, v and w to accept the given pattern.



State	Inputs	
	a	b
0	0	1
1	p	q
2	r	s
3	t	u
4	v	w



c) If pattern  $P = AAB$ , how many character comparison would occur using Naive String Matching Algorithm for text  $T = AAAAAAAB$ ?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Quiz navig

Finish attempt

Time left 1:48:56

1 2 3  
4 5 6  
7 8 9  
10 11 12  
13 14 15  
16 17 18  
19 20 21  
22 23 24  
25



# NetExam

Sri Lanka Institute of Information Technology

**Question 1**

Not yet answered

Marked out of  
1.00

Flag question

In doubly linked lists, traversal can be performed?

Select one:

- a. Only backward
- b. Only backward and last node
- c. Both direction
- d. Only forward and last node
- e. Only forward



# NetExam

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on 7  
answered  
out of  
question

If a full binary tree has the height of 5 then find the number of nodes of the full binary tree?

Select one:

- a. 127
- b. 63
- c. 255
- d. 31
- e. 15



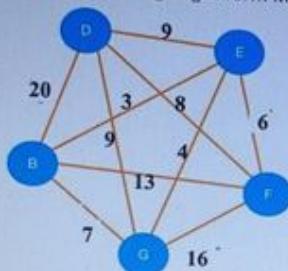
Question 2

Not yet answered

Marked out of  
1.00

Flag question

Which of the following edges form Minimum Cost Spanning Tree using Kruskal's algorithm?



Select one:

- a. (D - B), (B - E), (E - G), (G - F)
- b. (B - E), (E - G), (E - F), (F - D)
- c. (B - E), (E - G), (E - F), (E - D)
- d. (B - E), (E - G), (E - F), (B - G), (F - D)
- e. (B - E), (E - G), (E - F), (B - G), (D - F)

Next page

NetExam  
Sri Lanka Institute of Information Technology

4  
answered  
0 out of  
1 question

Find the most accurate time complexity of the algorithm in asymptotic notation

```
for i ← 0 to n+1
    print(i)
    for j ← 0 to n+1
        print(j)
```

Select one:

a.  $T(n) = \Theta(n)$

b.  $T(n) = \Theta((n+3)(n+3))$

c.  $T(n) = \Theta(8n + 55)$

d.  $T(n) = \Theta(n + 1)$

e.  $T(n) = \Theta(n^2 + 2n + 1)$

Next page

The image shows a laptop keyboard in the foreground, with the Windows logo visible on the screen above it. Overlaid on the screen is the NetExam software interface. The question asks for the most accurate time complexity of a nested loop algorithm. The code for the algorithm is provided as follows:

```
for i ← 0 to n+1
    print(i)
    for j ← 0 to n+1
        print(j)
```

The user has selected option (a)  $T(n) = \Theta(n)$ . The other options listed are (b)  $T(n) = \Theta((n+3)(n+3))$ , (c)  $T(n) = \Theta(8n + 55)$ , (d)  $T(n) = \Theta(n + 1)$ , and (e)  $T(n) = \Theta(n^2 + 2n + 1)$ .

11:47



# HashPanda (PANDA)



BEP20

\$0.00000004 +34.96%



92,010,827.27705694 PANDA

≈ \$4.12



Send



Receive



Copy



Transactions will appear here



Wallet



DApps



DEX



Settings



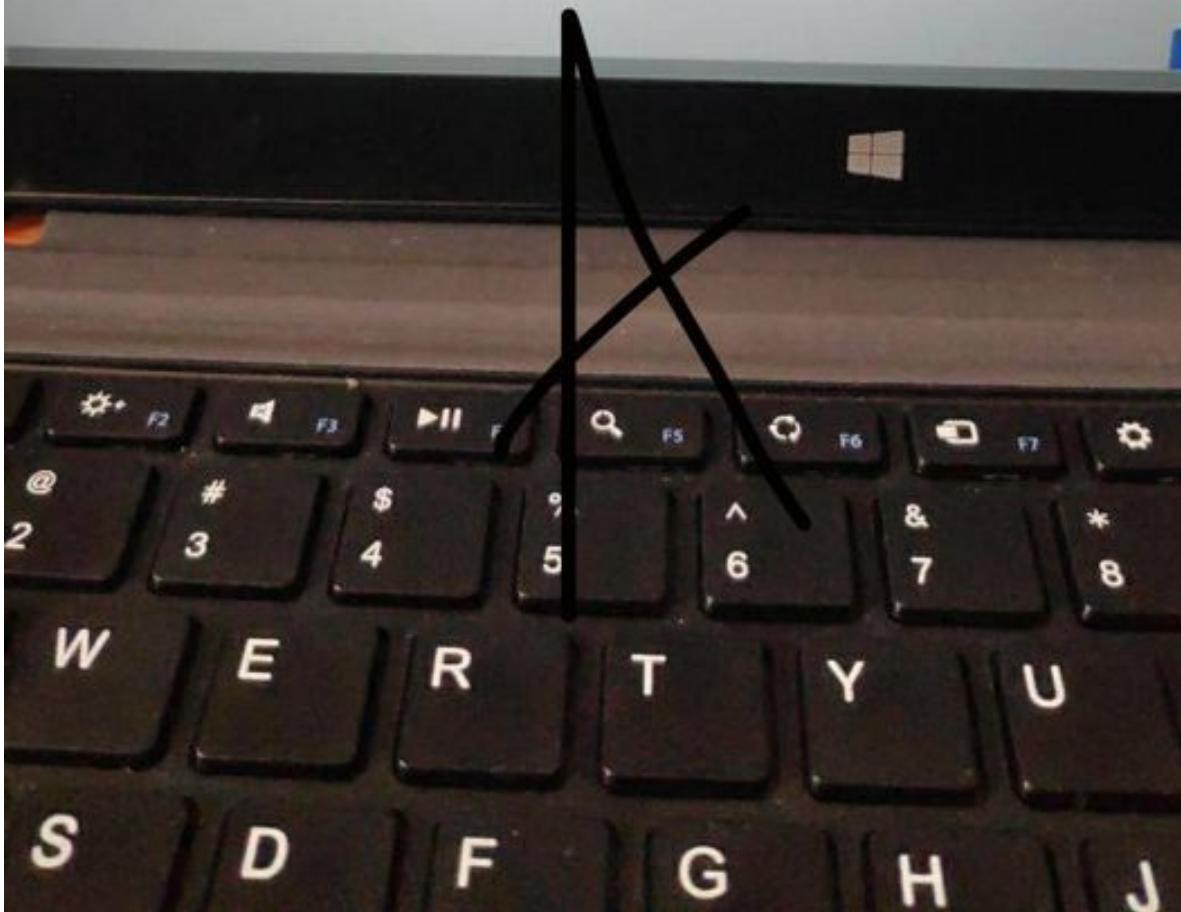
 NetExam  
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Find the most accurate time complexity of the algorithm in asymptotic notation

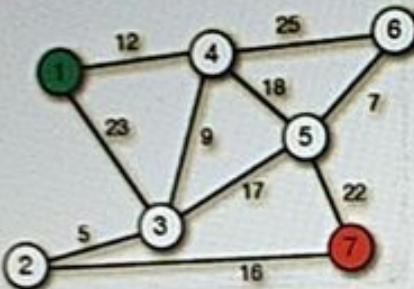
```
for i ← 0 to n + 1
    print(i)
    for j ← 0 to n + 1
        print(j)
```

Select one:

- a.  $T(n) = \Theta(n)$
- b.  $T(n) = \Theta((n+3)(n+3))$
- c.  $T(n) = \Theta(8n + 55)$
- d.  $T(n) = \Theta(n + 1)$
- e.  $T(n) = \Theta(n^2 + 2n + 1)$



- a. Find the minimum cost for the spanning tree of the graph using Kuska's or Prim's algorithm. Illustration is not required.
- b. Find the shortest distance from vertex 1 to vertex 7 using the Dijkstra's algorithm.. Illustration is not required

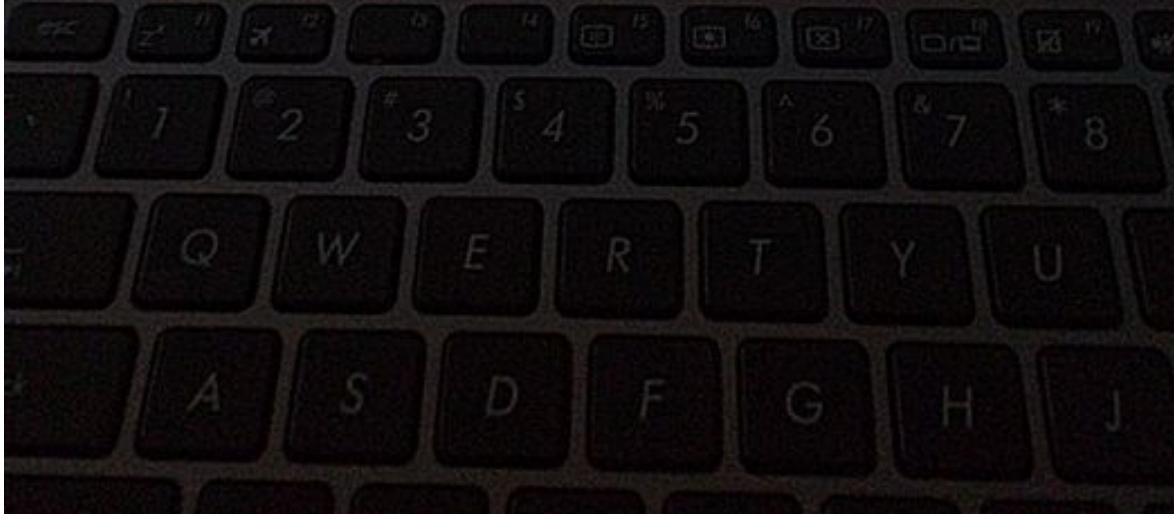


- c.Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1  
a ← 1  
for i ← 1 to 6 do  
    j ← j + 1  
    while a ≤ 5  
        a ← a + 2
```

- d.Design and algorithm to count the number of even number when user entered 100 integers as inputs.

Type here to search





# NetExam

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15

Answered  
out of  
question

This is **not** an analysis method.

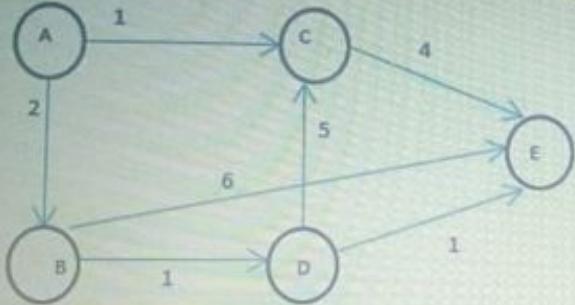
- (a) Step count method
- (b) Operation count method
- (c) RAM model
- (d) Asymptotic notations
- (e) Divide and conquer method

Select one:

- a. c
- b. a
- c. d
- d. b
- e. e

5  
Scored  
of 1.00  
Question

Consider the below graph and apply the Dijkstra's algorithm to find the shortest path from the source vertex A to vertex E.



Select one:

- a. 3
- b. 8
- c. 4
- d. 5
- e. 7



If a linear queue is implemented using an array of size **maxsize**, the queue gets full when

Select one:

- a.  $\text{rear} = \text{front}$
- b.  $\text{rear} = \text{maxsize} - 1$
- c.  $\text{front} = (\text{rear}+1) \bmod \text{maxsize}$
- d.  $\text{rear} = 0$
- e.  $\text{front} = \text{rear} + 1$

**Question 12**

Not yet answered

Marked out of  
1.00

Flag question

Consider the function  $f(n)$ , which is defined below.  $n$  is a non-negative integer.

$$f(n) = \begin{cases} 5n & \text{if } n \text{ is even} \\ f(n - 1) & \text{if } n \text{ is odd} \end{cases}$$

Use the above equation to manually compute  $f(11)$ .

Select one:

- a. 55
- b. 5
- c. 1
- d. 50
- e. 11

x

x

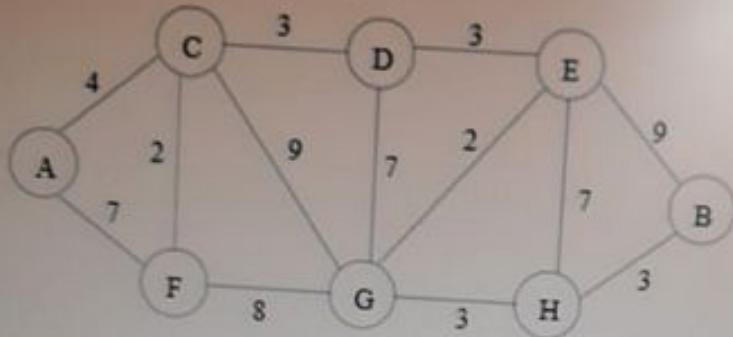
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i

d

Entered  
of  
Don

- a. Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.
- b. Find the shortest distance from vertex A to vertex B using the Dijkstra's algorithm. Illustration is not required to get the answer.



- c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1
a ← 1
for i ← 1 to 5 do
    j ← j + 1
    while a ≤ 4
        a ← a + 2
```

- d. Design an algorithm to count the number of odd numbers when user entered 100 integers as inputs.



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Question 4.

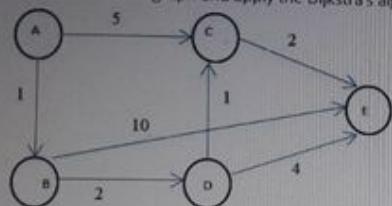
Not yet answered

Marked out of

1.00

Flag question

Consider the below graph and apply the Dijkstra's algorithm to find the shortest path from the source vertex A to C and A to E.



Select one:

- a. 4 and 7
- b. 4 and 6
- c. 5 and 7
- d. 5 and 11
- e. 5 and 6

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Sri Lanka Institute of Information Technology

Which of the following edges form Minimum Cost Spanning Tree using Kruskal's algorithm?

Select one:

- a. (B - E), (E - G), (E - F), (B - G), (F - D)
- b. (D - B), (B - E), (E - G), (G - F)
- c. (B - E), (E - G), (E - F), (B - G), (D - F)
- d. (B - E), (E - G), (E - F), (F - D)
- e. (B - E), (E - G), (E - F), (E - D)

esc f1 f2 f3 f4 f5 f6 f7 f8 1 @ # \$ % 5 ^ & 6

1  
answered  
out of  
question

a) List the array elements in the order of the index number when the Max\_Heapify(A,1) algorithms is applied to the following array elements.

A

1	2	3	4	5	6	7	8
2	25	16	10	8	3	7	1

b) List the array elements in the order of the index number when the Heap\_Insert(A,20) algorithms is applied to the following array elements.

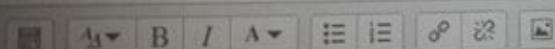
A

1	2	3	4	5	6	7	8
50	40	8	20	3	5	2	1

c) List the array elements in the order of the index number when the Max Build Heap() algorithms is applied to the following array elements.

A

1	2	3	4	5	6	7	8
40	10	60	70	30	20	80	50



Moodle

Question 2  
Not yet answered  
Marked out of 10.00  
Flag question

a) List the array elements in the order of the index number when the Max\_Heapify(A,1) algorithms is applied to the following array elements.

A:

1	2	3	4	5	6	7	8
2	40	50	20	3	5	8	1

b) List the array elements in the order of the index number when the Heap\_Insert(A,7) algorithms is applied to the following array elements.

A:

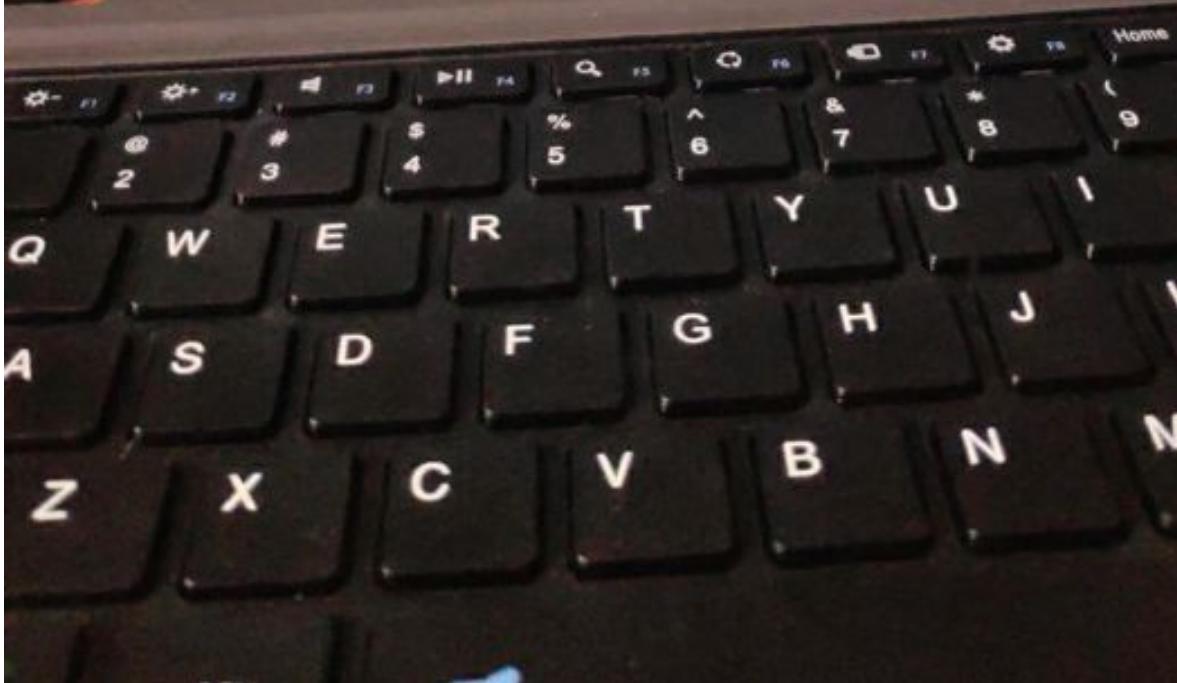
1	2	3	4	5	6	7	8
25	16	16	2	8	3	7	1

c) List the array elements in the order of the index number when the Max Build Heap() algorithms is applied to the following array elements.

A:

1	2	3	4	5	6	7	8
10	50	70	30	20	40	80	60

Text Editor Tools





# NetExam

Sri Lanka Institute of Information Technology

15

answered

out of

question

Find the number of steps (RAM model) of the following pseudo code.

```
a ← 1
while(a <= n)
    print(a)
    a ← a + 1
for    b ← 1    to    5
    print(b)
```

Select one:

- a.  $25n + 2$
- b. None of the above
- c.  $26n + 2$
- d.  $4n + 2$
- e.  $n + 1$

 NetExam

Sri Lanka Institute of Information Technology

ed

n

Consider the following recursive algorithm SUM(n):

```
SUM(n){  
    If n=0 Then  
        Return 0  
    Else  
        Return SUM(n-1)+n  
}
```

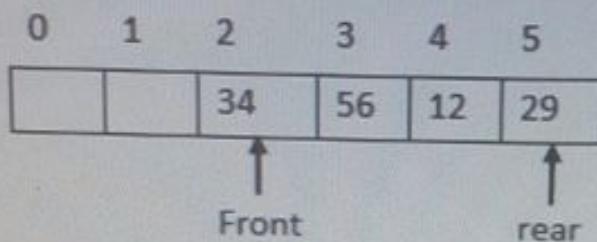
Find the recurrence equations for the running time:

Select one:

- a.  $T(n)=C_1+C_2+T(n-1)*n$
- b.  $T(n)=C_1+C_2+T(n-1)+n$
- c.  $T(n)=C_1+C_2+T(n-1)$
- d.  $T(n)=C_1+C_2+T(n-1) +n-1$
- e.  $T(n)=C_1+C_2+T(n)$



Consider the following linear queue.



Select the **incorrect** statement about the above queue.

Select one:

- a. The queue can store only 6 items
  - b. Queue is full
  - c. Can insert two more data items
  - d. The next item to remove from the queue is 34
  - e. None of the above

## Axolotl Finance

🔥 Token burn Starts From Today - June 10

Full schedule of Token burn will be available on Whitepaper

Token burn #1 :

4,000,000,000,000 \$AXO burned  
(0.4% of Max supply)

Hash:

[https://bscscan.com/tx/  
0x4a1d796bd1e6f30357a3ef7dbba2f1bd6  
cc1947fa69724ee67290b27a635e825](https://bscscan.com/tx/0x4a1d796bd1e6f30357a3ef7dbba2f1bd6cc1947fa69724ee67290b27a635e825)

This will continue until 93% Burn

| Binance (BNB)  
| Blockchain Expl...



MUTE

Which of the following method adds a node to the link list at the beginning with the value of id?  
Class details are given below:

```
class Link {  
    public int iData; // data item  
    public Link next; // reference to the next link  
    public Link(int id) { // constructor  
        iData = id;  
        next = null; } }  
  
class LinkList {  
    private Link first;  
    public LinkList() { //constructor  
        first = null;  
    }  
}
```

Select one:

- a. public void insertFirst(int id) {  
 Link newLink = Link(id);  
 newLink.next = first;  
 first = newLink;  
}
- b. public void insertFirst(int id) {  
 Link newLink = new Link(id);  
 newLink.next = first;  
 first = newLink;  
}
- c. public void insertFirst(int id) {  
 Link newLink = new Link();  
 newLink.next = first;  
 first = newLink;



# NetExam

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A function is defined as follows:

$$f(n) = \begin{cases} 3^{-n} - 1 & \text{if } n \leq 0 \\ f(n - 5) & \text{if } n > 0 \end{cases}$$

Find the value of  $f(11)$ .

Select one:

- a. 80
- b. 26
- c. 6
- d. 1
- e. 81

Next



A A ▾

B

I

A ▾

a)

Spurious hits = 3

Valid hits = 1

b)

p - 0

q - 2

r - 3

s - 2

t - 1

u - 4

v - 1

w - 2

{



**Question 2**

Not yet answered

Marked out of  
1.00

Flag question

Which of the following is/are correct about algorithm analysis?

- (i) Algorithm analysis is done to find the best algorithm
- (ii) Step count & RAM Model are two different algorithm analysis techniques
- (iii) Exact Analysis Method provides the most accurate analysis than the Asymptotic Notations

Select one:

- a. (i) and (iii) only
- b. None of the above
- c. (ii) and (iii) only
- d. All are correct
- e. (i) and (ii) only



9  
answered  
out of  
question

An algorithm, which is developed for finding the shortest path has the running time equation as,  $T(n) = 5n + n\log n + 10$ . Which is correct for its complexity?

Select one:

- a.  $T(n) = O(n)$  or  $T(n) = \Omega(n\log n)$
- b.  $T(n) = O(n)$  or  $T(n) = \Omega(n)$
- c.  $T(n) = O(n\log n)$  or  $T(n) = \Omega(n)$
- d. None of the above
- e.  $T(n) = O(n\log n)$  or  $T(n) = \Omega(n\log n)$

Next page

Marked out of  
10.00  
Flag question

Stack is full.

Implement isEmpty() methods of the stack class.

b. Consider the following code segment in java to work with the stack.

```
public class Test {  
    private String input;  
    private String output;  
    public Test(String in) {  
        input = in;  
    }  
    public String doTest() {  
        int stackSize = input.length();  
        Stack theStack = new Stack(stackSize);  
  
        for (int i = 0; i < input.length(); i++) {  
            char ch = input.charAt(i);  
            theStack.push(ch);  
        }  
        output = "";  
        while (!theStack.isEmpty()) {  
            char ch = theStack.pop();  
            output = output + ch;  
        }  
        return output;  
    }  
}
```

1. Briefly explain the purpose of the code segment in stack.
2. Why does it initialize the output variable as ""?
3. List the one limitation where this code can be used.



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**Question 9**  
Not yet answered  
Marked out of 10.00

**Flag question**

a. Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.

b. Find the shortest distance from vertex A to vertex B using the Dijkstra's algorithm. Illustration is not required to get the answer.

c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j = 1
a = 1
for i = 1 to 5 do
    j ← j + 1
    while a ≤ 4
        a ← a + 2
```

d. Design an algorithm to count the number of odd numbers when user entered 100 integers as inputs.

**Quiz navigation**

Home page  
Next (2/14)

**Feedback**

**Question 10**

Not yet answered

Marked out of  
1.00

Flag question

Find the most accurate time complexity of the algorithm in asymptotic notation

```
a←1
while(a <= n+5)
    i ← 0
    while(i <= n-5)
        print(i)
        i ← i+1
    a ← a+1
```

Select one:

- a.  $T(n) = \Theta(45n + 243)$
- b.  $T(n) = \Theta(n^2 - 25)$
- c.  $T(n) = \Theta(n + 5)$
- d.  $T(n) = \Theta((n+5)(n-5))$
- e.  $T(n) = \Theta(n^2)$

Find the number of steps (RAM model) of the following pseudo code.

j = 5

```
while j <= 0  
    j = j + 1  
    print j
```

Select one:

- a. 2
- b. None of the above
- c. 1
- d. 26
- e. 25



# NetExam

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2

answered  
out of  
question

Use RAM Model to compute the step count of the following pseudo code.

$j \leftarrow 0$



$n \leftarrow 1$

while  $j \leq 5$

$j \leftarrow j + 1$

    while  $n <= 0$

$n \leftarrow n + 1$

Select one:

- a. 27 steps
- b. 2 steps
- c. 21 steps
- d. 63 steps
- e. 22 steps

**Question 2**

Not yet answered

Marked out of

1.00

 Flag questionIf  $T(n) = T(3n/4) + cn^2$  find the solution for  $T(n)$  using Master Theorem

$$T(n) = \begin{cases} \Theta(n^{\log_2 2}) & f(n) = O(n^{\log_2 2 - \epsilon}) \rightarrow f(n) < n^{\log_2 2} \\ \Theta(n^{\log_2 2} \lg n) & f(n) = \Theta(n^{\log_2 2}) \rightarrow f(n) = n^{\log_2 2} \\ \Theta(f(n)) & f(n) = \Omega(n^{\log_2 2 + \epsilon}) \rightarrow f(n) > n^{\log_2 2} \\ & \text{if } af(n/b) \leq cf(n) \text{ for } c < 1 \text{ and large } n \end{cases}$$

Select one:

- a.  $T(n) = \Theta(n^2 \log_2 n)$
- b.  $T(n) = \theta(cn)$
- c.  $T(n) = \Theta(n^2 \log_{10} n)$
- d.  $T(n) = \Theta(cn^2)$
- e.  $T(n) = \Theta(n^3)$





A



NetExam

Sri Lanka Institute of Information Technology

6

answered  
out of  
question

Find the number of steps (RAM model) of the following pseudo code

 $j = 5$ 

```
while j <= 0
```

```
    j = j + 1
```

```
    print j
```

Select one:

- a. 1
- b. 26
- c. 25
- d. 2
- e. None of the above

X

NetExam

Sri Lanka Institute of Information Technology

ed

on

Consider the following java statement.

```
stackArray = new double[5];
```

What will be the top when the above stack is full?

Select one:

- a. 0
- b. None of the above
- c. 5
- d. 4
- e. 6



Which of the following is/are correct about algorithm analysis?

- (i) Algorithm analysis is done to find the best algorithm
- (ii) Step count & RAM Model are two different algorithm analysis techniques
- (iii) Exact Analysis Method provides the most accurate analysis than the Asymptotic Notations

Select one:

- a. (i) and (iii) only
- b. (ii) and (iii) only
- c. All are correct
- d. None of the above
- e. (i) and (ii) only



Question 3  
Not yet answered  
Marked out of  
1.00  
 Flag question

Consider the following operations performed on an empty stack of size 5

Push(16)  
Pop()  
Push(11)  
Push(28)  
Pop()  
Peek()  
Push(59)  
Pop()  
Push(67)  
Pop()

The number of items remain in the stack is

Select one:

- a. 2
- b. 3
- c. 0
- d. 4
- e. 1

Moodle

Question 8  
Not yet answered  
Marked out of 10.00  
Flag question

a. Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.

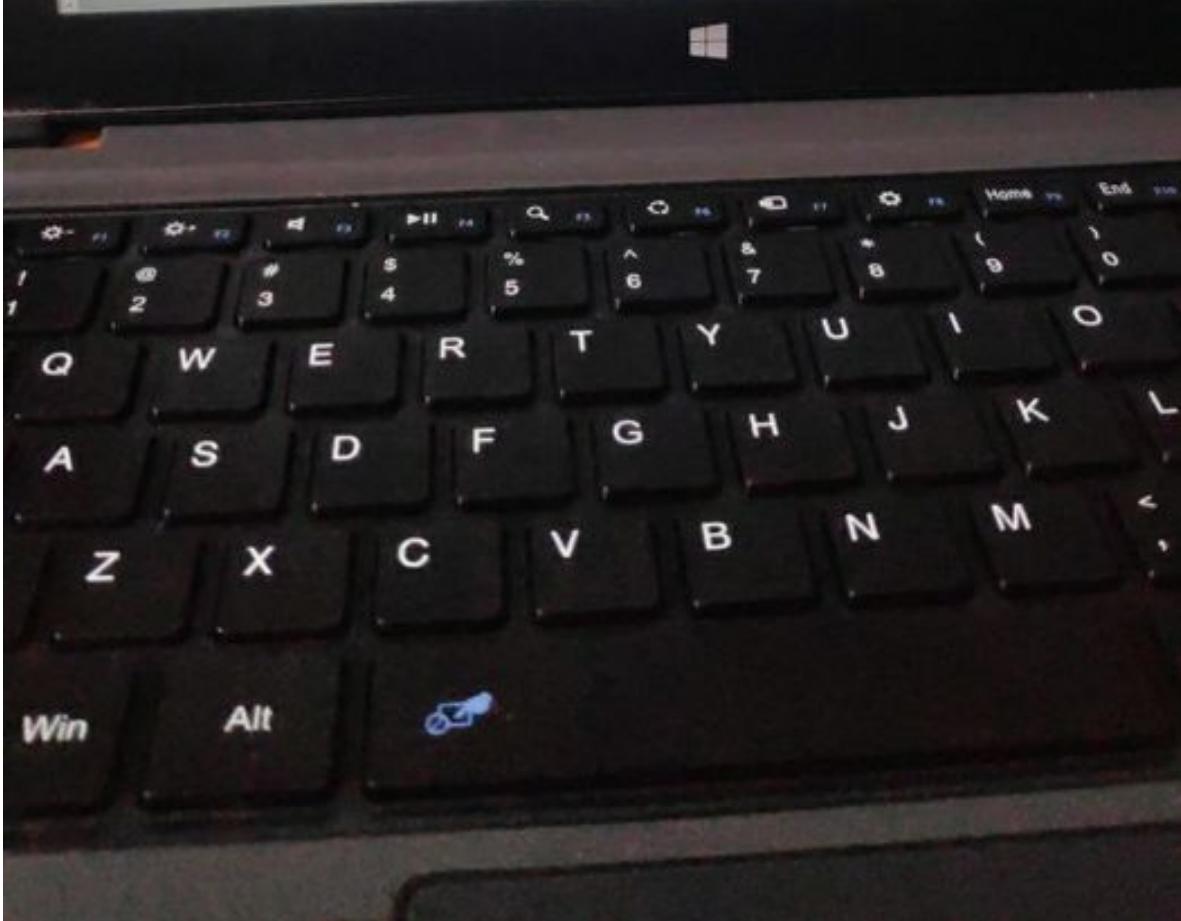
b. Find the shortest distance from vertex 1 to vertex 7 using the Dijkstra's algorithm. Illustration is not required to get the answer.

c. Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j := 1  
a := 1  
for i := 1 to 6 do  
    j := j + 1  
    while a <= 5  
        a := a + 2
```

d. Design an algorithm to count the number of even number when user entered 100 integers as inputs.

Quiz nav  
Finish attempt...  
Time left 1:10:51  
1 2 3  
8 9 10  
15 16 17  
22 23 24  
FEEDBACK  
25



The In-order traversal of a binary tree is A B C D E. Then possible post-order traversal will be

Select one:

- a. DBAEC
- b. ACBDE
- c. ACBED
- d. DBEAC
- e. DBACE

Nex



n 1  
answered  
1 out of  
question

Find the most accurate time complexity of the algorithm in asymptotic notation.

```
a ← 1
while(a <= n + 5)
    i ← 0
    while(i <= n - 5)
        print(i)
        i ← i + 1
    a ← a + 1
```

Select one:

- a.  $T(n) = \Theta(n + 5)$
- b.  $T(n) = \Theta((n + 5)(n - 5))$
- c.  $T(n) = \Theta(n^2 - 25)$
- d.  $T(n) = \Theta(45n + 243)$
- e.  $T(n) = \Theta(n^2)$

Dulaj(sliit)

12.06.21 at 8:41 AM





# NetExam

Sri Lanka Institute of Information Technology

15

answered  
out of  
g question

Find the number of steps (RAM model) of the following pseudo code.

```
a ← 1
while(a <= n)
    print(a)
    a ← a + 1
for    b ← 1    to    5
    print(b)
```

Select one:

- a.  $25n + 2$
- b. None of the above
- c.  $26n + 2$
- d.  $4n + 2$
- e.  $n + 1$



# NetExam

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If a linear queue is implemented using an array of size `maxsize`, the queue gets full when

Select one:

- a.  $\text{front} = \text{rear} + 1$
- b.  $\text{rear} = 0$
- c.  $\text{front} = (\text{rear}+1) \bmod \text{maxsize}$
- d.  $\text{rear} = \text{front}$
- e.  $\text{rear} = \text{maxsize} - 1$

Next >



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**Question 1**

Not yet answered  
Marked out of  
1.00

Flag question

Which of the following is correct recurrence equation:

Select one:

- a.  $T(n)=T(3n/2)+C1$
- b.  $T(n)=T(2n)+C1$
- c.  $T(n)=T(n/2)+C1$
- d.  $T(n)=T(n+1)+C1$
- e.  $T(n)=T(5n/3)+C1$

1/2

Next

**Question 3**

Not yet answered

Marked out of  
1.00

Flag question

Find the number of steps (RAM model) of the following pseudo code.

```
i = 0
```

```
· while i <= 0
```

```
    i = i + 1
```

```
    print i
```

Select one:

- a. 1
- b. 6
- c. 2
- d. 46
- e. 45

idle

Sri Lanka Institute of Information Technology

Run 6  
1 answered  
1 out of

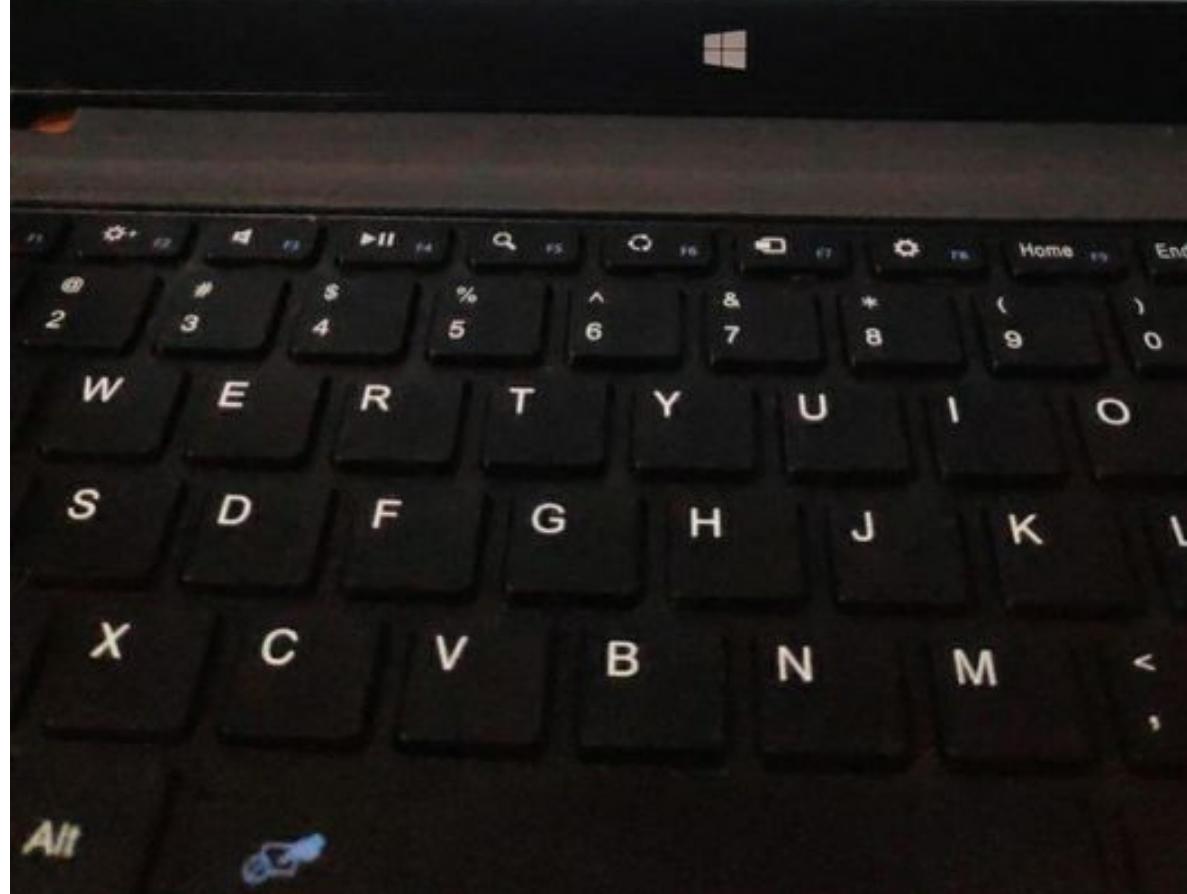
Flag question

The LinkList class contains only one data item, a reference to the first link on the list called 'first'. Which of the following method implement the isEmpty() method correctly?

Select one:

- a. public boolean isEmpty() {  
  
return (first == 0);  
}
- b. public int isEmpty() {  
  
return (first == null);  
}
- c. public string isEmpty() {  
  
return (first == null);  
}
- d. public boolean isEmpty() {  
  
return (first == null);  
}
- e. public boolean isEmpty() {  
  
return (first < null);  
}

Find  
Tim  
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25





# NetExam

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Consider the following java statement.

```
stackArray = new double[5];
```

What will be the top when the above stack is full?

Select one:

- a. 0
- b. None of the above
- c. 5
- d. 4
- e. 6

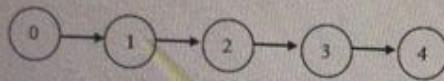
**Question 12**

Not yet answered  
Marked out of  
10.00

Flag question

a) If modulo value is  $q = 200$ , how many spurious hits and valid hits do the Rabin -Karp matcher encounter in the text  $T = 2004001200200$  when looking for pattern  $P = 400$ ?

b) Consider the following incomplete state transition diagram for a string-matching automation for the pattern  $P = bbab$  and take the input alphabet as  $\{a,b\}$ . The following incomplete table represents the input versus states for the state transition diagram. Find the missing states for the  $p, q, r, s, t, u, v$  and  $w$  to accept the given pattern.



State	Inputs	
	a	b
0	0	1
1	p	q
2	r	s
3	t	u
4	v	w

c) If pattern  $P = CAB$ , how many character comparison would occur using Naive String Matching Algorithm for text  $T = AAAAAAAB$ ?

a) List the array elements in the order of the index number when the Max\_Heapify(A,1) algorithms is applied.

A

1	2	3	4	5	6	7	8
2	40	50	20	3	5	8	1

b) List the array elements in the order of the index number when the Heap\_Insert(A,7) algorithms is applied.

A

1	2	3	4	5	6	7	8
25	16	16	2	8	3	7	1

c) List the array elements in the order of the index number when the Max Build Heap() algorithms is applied.

A

1	2	3	4	5	6	7	8
10	50	70	30	20	40	80	60

Type here to search





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**Question 1**

Not yet answered

Marked out of  
1.00

Flag question

1. Which of the following is correct?

- (a)  $n^3 + n^2 + 3n + 10 = O(n^3)$
- (b)  $n^3 + n^2 + 3n + 10 = O(n^2)$
- (c)  $n^3 + n^2 + 3n + 10 = O(n)$
- (d)  $n^3 + n^2 + 3n + 10 = O(n^4)$
- (e)  $n^3 + n^2 + 3n + 10 = O(n^5)$

Select one:

- a. d only
- b. b only
- c. e only
- d. c only
- e. a only



Moodle

Question 30 Not yet answered Marked out of 5.0 Flag question

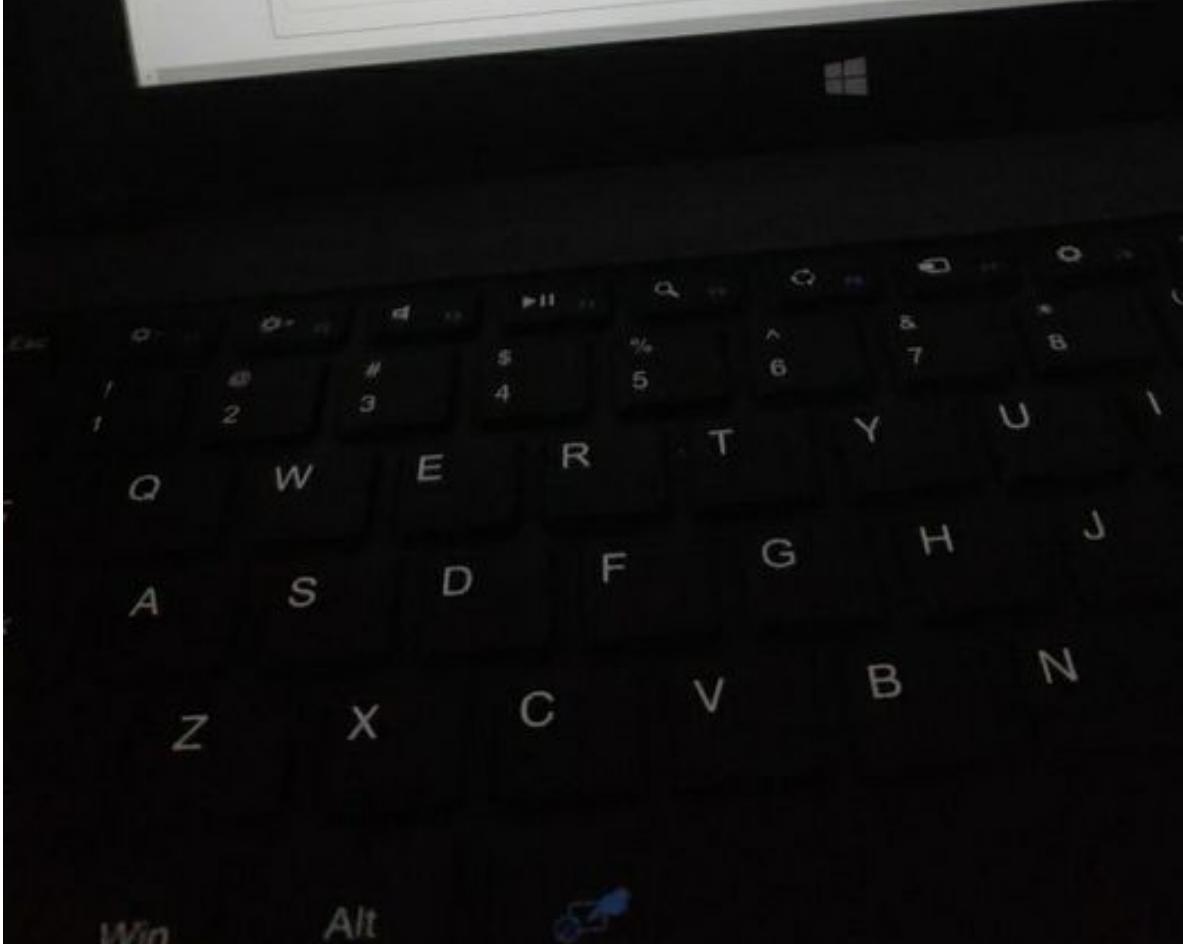
d) Implement the button click event of My Profile button to show a dialog box as shown below on top of the MenuActivity screen. The body of the dialog includes the current login farmer's details. The title should be "My Profile" and there is an "OK" button that is there to exit from the particular dialog box.

**My Profile**

Farmer's name: Saman  
District: Ampara  
Item: Salad Consumer  
description:

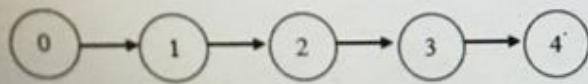
Assume that getAllFarmerData() function that retrieves a farmer's name as a parameter is already written in the DBHelper java class to find and return particular farmer's details.

```
public void onClick(View view) {  
    // Write your answer here  
}
```



a) If modulo value is  $q = 300$ , how many spurious hits and valid hits do the Rabin -Karp matcher encounter in the text  $T = 300300300300$  when looking for pattern  $P = 600$ ?

b) Consider the following incomplete state transition diagram for a string-matching automation for the pattern  $P = bbba$  and take the input alphabet as  $\{a,b\}$ . The following incomplete table represents the input versus states for the state transition diagram. Find the missing states for the p, q, r, s, t, u, v and w to accept the given pattern.



State	Inputs	
	a	b
0	0	1
1	p	q
2	r	s
3	t	u
4	v	w

c) If pattern  $P = AAB$ , how many character comparison would occur using Naive String Matching Algorithm for text  $T = AAAAAAAAB?$

Marked out of  
10.00  
Flag question

Stack is full.

Implement isEmpty() methods of the stack class.

b. Consider the following code segment in java to work with the stack.

```
public class Test {  
    private String input;  
    private String output;  
    public Test(String in) {  
        input = in;  
    }  
    public String doTest() {  
        int stackSize = input.length();  
        Stack theStack = new Stack(stackSize);  
  
        for (int i = 0; i < input.length(); i++) {  
            char ch = input.charAt(i);  
            theStack.push(ch);  
        }  
        output = "";  
        while (!theStack.isEmpty()) {  
            char ch = theStack.pop();  
            output = output + ch;  
        }  
        return output;  
    }  
}
```

1. Briefly explain the purpose of the code segment in stack.
2. Why does it initialize the output variable as ""?
3. List the one annotation where this code can be used.





## Question 1

Not yet answered

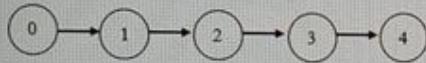
Marked out of

10.00

Flag question

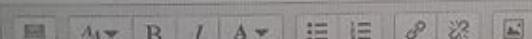
a) If modulo value is  $q = 300$ , how many spurious hits and valid hits do the Rabin-Karp matcher encounter in the text  $T = 300300300300$  when looking for pattern  $P = 600$ ?

b) Consider the following incomplete state transition diagram for a string-matching automation for the pattern  $P = bbba$  and take the input alphabet as  $\{a, b\}$ . The following incomplete table represents the input versus states for the state transition diagram. Find the missing states for the  $p, q, r, s, t, u, v$  and  $w$  to accept the given pattern.



State	Inputs	
	a	b
0	0	1
1	p	q
2	r	s
3	t	u
4	v	w

c) If pattern  $P = AAB$ , how many character comparison would occur using Naive String Matching Algorithm for text  $T = AAAAAAAB$ ?



<

## Add Custom Token

DONE

Network

Smart Chain &gt;

Contract Address

PASTE



Name

Symbol

Decimals

What is Custom Token?

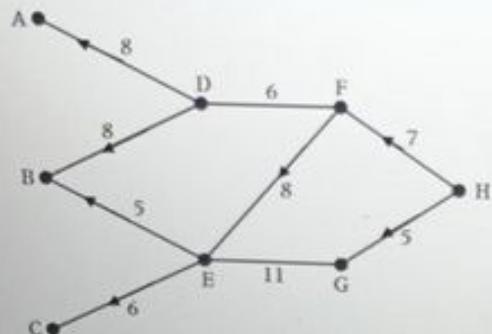


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10  
answered  
out of  
question

Apply Dijkstra's algorithm and find out which of the vertices (A, B or C) nearest to H and the distance



Select one:

- a. A only, the distance is 14
- b. B only, the distance is 20
- c. C only, the distance is 22
- d. A and B only, the distance is 21
- e. A, B and C , the distance is 21



NetExam

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13  
answered  
out of  
question

If a full binary tree has the height of 10 then find the number of nodes of the full binary tree?

Select one:

- a. 1023
- b. 1024
- c. 4095
- d. 2047
- e. 2048

[Next page](#)



on 14

not answered  
out of

g question

This is **not** an analysis method.

- (a) Step count method
- (b) Operation count method
- (c) RAM model
- (d) Asymptotic notations
- (e) Divide and conquer method

Select one:

- a. c
- b. e
- c. a
- d. b
- e. d

Consider the following pseudo code

```
Multiply (m,n)

if (n = 1)
    return m;

else
    return (m + Multiply(m, n-1))
```

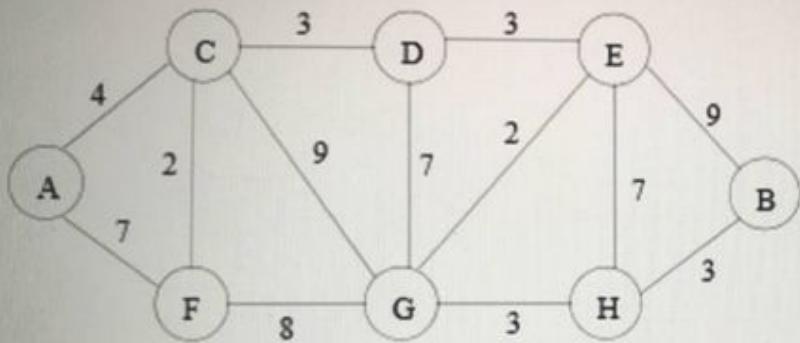
What is the recurrence equation for this pseudo code?



Select one:

- a.  $T(n) = T(n-1) + c$
- b.  $T(n) = T(m-1) + c_1 + c_2$
- c.  $T(n) = T(m-n) + c_1 + c_2$
- d. None of the above
- e.  $T(n) = T(mn-1) + c$

- Find the minimum cost for the spanning tree of the graph using Kuskal's or Prim's algorithm. Illustration is not required to get the answer.
- Find the shortest distance from vertex A to vertex B using the Dijkstra's algorithm.. Illustration is not required to get the answer.



- Calculate the running time of the following program fragment assuming a RAM model of computation.

```
j ← 1  
a ← 1  
for i ← 1 to 5 do  
    j ← j + 1  
    while a ≤ 4  
        a ← a + 2
```

- Design an algorithm to count the number of odd numbers when user entered 100 integers as inputs.

a)  
Spurious hits = 3  
Valid hits = 1

b)

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You are given pointers to first and last nodes of a singly linked list, which of the following operations are dependent on the length of the linked list?

Select one:

- a. Delete the first element
- b. Insert a new element as a first element
- c. Delete the last element of the list
- d. Delete the second element
- e. Add a new element at the end of the list



Question 6

Not yet answered

Marked out of  
1.00

Flag question

Find the number of steps (RAM model) of the following pseudo code.

```
a ← 1
b ← 1
while(a <= n)
    print(a)
    a ← a + 1
while(b <= 5)
    print(b)
    b ← b + 1
```

Select one:

- a. None of the above
- b.  $25n + 2$
- c.  $25n + 3$
- d.  $5n + 22$
- e.  $5n + 23$

Powered  
out of  
question

Which of the following Big O notation represents the fastest algorithm?

Select one:

- a.  $O(n \log n)$
- b.  $O(\log n)$
- c.  $O(n^2)$
- d.  $O(n)$
- e.  $O(n^3)$

Next >



1. Which of the following Big O notation represents the fastest algorithm?

- (a)  $O(n)$
- (b)  $O(\log n)$
- (c)  $O(n \log n)$
- (d)  $O(n^2)$
- (e)  $O(n^3)$

Select one:

- a. c
- b. d
- c. a
- d. e
- e. b

A function is defined as follows:

$$f(n) = \begin{cases} 2^n + 1 & \text{if } n \leq 5 \\ f(n - 8) & \text{if } n > 5 \end{cases}$$

Find the value of  $f(11)$ .

Select one:

- a. 8
- b. 3
- c. 16
- d. 9
- e. 7

**Question 19**

Not yet answered

Marked out of  
1.00

 Flag question

If a full binary tree has the height of 4 then find the number of

Select one:

- a. 63
- b. 31
- c. 127
- d. 255
- e. 15