

Q1. Pseudo Code

Q 01. What will be the output of the following pseudocode for a=2, b=1?

```

1. Integer funn(Integer a, Integer b)
2.   if(b&a>0)
3.     return funn(b-1,a+2)
4.   End if
5.   return b+a
    
```



Note- &: bitwise AND - The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit of the second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

- Ops:**
- A. 13
 - B. 4
 - C. -1
 - D. 5

Reset



Q 02. If we draw a binary search tree by inserting the given numbers from left to right, then what would be the height of the BST?

34, 36, 46, 39, 38, 48, 47, 93

- Ops:**
- A. 5
 - B. 2
 - C. 4

A. 2

C. 4

D. 3

Reset



Q 03. Which of the following is a divide and conquer algorithm?

1. Merge sort

2. Quicksort

3. Bubble sort



Ops: A. 1, 2 & 3

B. 1 & 3

C. 2 & 3

D. 1 & 2

Reset

Q 04. Solve the given postfix expression.

4 3 1 - 2 * +

Ops: A. 4

B. 6

C. 8

D. 12

Reset

Q 05. What will be the output of the following pseudocode?



- C. 8
D. 12

Reset

Q 05. What will be the output of the following pseudocode?

1. String str1="mars",str2="lion"
2. Print isPalin(str2+str1)+countVowel(str2+str1)



Note: countVowel(string) returns the number of vowels in the string. Ex- countVowel("okay") returns 2.
isPalin(string) returns 1 if the string is a palindrome, otherwise returns 0. Ex- isPalin("yyy") returns 1.

- Ops:** A. 2
B. 3
C. 5
D. 7

Reset



Q 06. What will be the output of the following pseudo code?

1. Integer a,b,c
2. Set a=1, b=5, c=8
3. if((c+b+a)<(4-a-c))
4. b=c+a
5. Else
6. b=b+c

Q 05. *ISPalin(string) returns true if the string is a palindrome*

- Ops: A. 2
B. 3
C. 5
D. 7

Reset

Q 06. What will be the output of the following pseudo code?

1. Integer a,b,c
2. Set a=1, b=5, c=8
3. if((c+b+a)<(4-a-c))
4. b=c+a
5. Else
6. b=b+c
7. b=(c+12)+a
8. End if
9. c=5+b
10. Print a+b+c

- Ops: A. 43
B. 48
C. 53
D. 49

Reset

Q 07. What will be the output of the following pseudo code?



C. 53

D. 49

Reset

Q 07. What will be the output of the following pseudo code?

```
1. Integer p,q,r
2. Set p=1, q=5, r=8
3. p=6+r
4. if((3+r+p)<(6+p+q))
5.     r=(6+7)+q
6. Else
7.     r=p+p
8. End if
9. if((r+q+p)<(4-p-r))
10.    p=(11+11)+r
11. End if
12. Print p+q+r
```



Ops: A. 60

B. 47

C. 28

D. 54

Reset

Q 08. What will be the output of the following pseudocode?

```
1. Integer p,q,r
```

C. 28

D. 54

Reset

Q 08. What will be the output of the following pseudocode?

1. Integer p,q,r
2. Set p=9, q=6, r=4
3. r=10^p
4. p=r+r
5. p=p+q
6. p=12&r
7. Print p+q+r



Note- &: bitwise AND - The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is 0.

\wedge is the bitwise exclusive OR operator that compares each bit of its first operand to the corresponding bit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

- Ops:**
- A. 9
 - B. 3
 - C. 11
 - D. 23

Reset



Ops: A. 9

B. 3

C. 11

D. 23

Reset

Q 09.

15	6	18	3	7	17	20	2	4	13
0	1	2	3	4	5	6	7	8	9

From the given linear or array representation of the binary tree find the left child of 18?



Ops: A. 17

B. 20

C. 7

D. 2

Reset



Q 10. Find out the number of vertices in a simple graph, if there are 8 edges, 2 vertices of degree 3, and all others of degree 2.

Ops: A. 7

B. 8

C. 9

D. 6

Reset

Q 11. What will be the output of the following pseudo code?

1. Integer n

2. Set n = 5

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D. 6

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Q 11. What will be the output of the following pseudo code?

```

1. Integer n
2. Set n = 5
3. for (each i from 1 to n)
4.   for (each j from 1 to i)
5.     if j == 0 || j == i - 1
6.       Print("*", end=" ")
7.     Else
8.       if i != n
9.         Print(" ", end=" ")
10.      Else
11.        Print("*", end=" ")
12.      End if
13.    End if
14.  End for
15. Print()
16. End for

```

Ops: A. *

* *
* *
* *
* * * *

B. *

* *
* *
* *
* * *



Reset

Q 12. What will be the output of the following pseudocode?

```
1. Integer j, m
2. Set m=0
3. Integer a[4] = {0,1,1,4}
4. for(each j from 0 to 2 )
5.     if (a[j+1]+a[j] > 4 )
6.         m=m-a[j]
7.     End if
8. End for
9. Print m
```

- Ops:**
- A. 8
 - B. -1
 - C. -19
 - D. 16

Reset



Q 13.

	A	B	C	D	E
A	0	1	1	0	0
B	0	0	1	1	0

D. 10

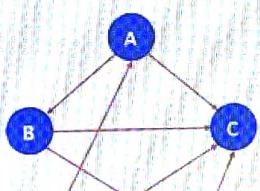
Reset

Q 13.

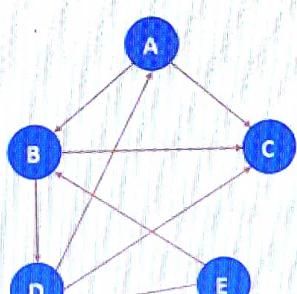
	A	B	C	D	E
A	0	1	1	0	0
B	0	0	1	1	0
C	0	0	0	0	0
D	1	0	1	0	0
E	0	1	0	1	0

Which of the following is the correct graph represented by the given Adjacency Matrix?

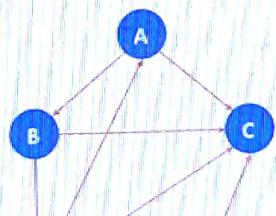
Ops: A.



B.



C.



Reset

Q 14. What will be the output of the following pseudo code?

1. Integer a,b,c
2. Set a=7, b=2, c=9
3. b=9^b
4. for(each c from 2 to 3)
5. b=(a+a)&a
6. End for
7. b=1^a
8. Print a+b

Note- &: bitwise AND - The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is 0.

\wedge is the bitwise exclusive OR operator that compares each bit of its first operand to the corresponding bit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

- Ops:**
- A. 9
 - B. 25
 - C. 13
 - D. 20

Reset



Q 15. What will be the output of the following pseudo code?

Q 15. What will be the output of the following pseudo code?

```
1. Integer pp,qq,rr  
2. Set pp=5, qq=4, rr=9  
3. if(2>pp && 2>pp)  
4.     pp=5+rr  
5. Else  
6.     qq=8&pp  
7.     rr=(1+4)+rr  
8. End if  
9. Print pp+qq+rr
```

Note- &&: Logical AND - The logical AND operator (&&) returns the Boolean value true(or 1) if both operands are true, return false (or 0) otherwise.

&: bitwise AND - The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit of the second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is 0.

- Ops:**
- A. 22
 - B. 19
 - C. 32
 - D. 16

Reset

Q 16. In an array with 30 integers how many comparisons are required to find the maximum and minimum number?



Q 16. In an array with 30 integers how many comparisons are required to find the maximum and minimum number?

- Ops:**
- A. 28
 - B. 36
 - C. 45
 - D. 43

Reset

Q 17. What will be the output of the following pseudo code?

```
1. Integer p,q,r
2. Set p=1, q=2, r=10
3. if((1+p)<q || (r+3)<3)
4.     q=9+q
5.     if((q+p+r)<(r+6))
6.         p=(p+p)+q
7.     End if
8.     r=q+p
9. End if
10. Print p+q+r
```



Note- ||: Logical OR - The logical OR operator (||) returns the Boolean value TRUE(or 1) if either or both operands is TRUE and returns FALSE(or 0) otherwise.

- Ops:**
- A. 24
 - B. 9
 - C. 14
 - D. 12

Reset**Q 18.** What will be the output of the following pseudo code?

```
1. Integer p,q,r
2. Set p=1, q=2, r=10
3. if((r+p)<q)
4.     q=q+r
5.     if((r+p+q)<(q+r))
6.         q=(9+3)+p
7.     Else
8.         p=q+r
9.     End if
10.    p=(r+p)+q
11. End if
12. q=(p+3)+q
13. Print p+q+r
```

- Ops:
- A. 31
 - B. 17
 - C. 10
 - D. 22

Reset**Q 19.** What will be the output of the following pseudo code?

```
1. Integer pp,qq,rr
2. Set pp=9, qq=6, rr=5
3. for(each rr from 4 to 5 )
```

b.

Reset

Q 19. What will be the output of the following pseudo code?

1. Integer pp,qq,rr
2. Set pp=9, qq=6, rr=5
3. for(each rr from 4 to 5)
4. qq=8&pp
5. pp=(1+2)^rr
6. End for
7. pp=pp&rr
8. for(each rr from 2 to 3)
9. qq=(pp+11)^qq
10. End for
11. Print pp+qq



Note- &: bitwise AND - The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

\wedge is the bitwise exclusive OR operator that compares each bit of its first operand to the corresponding bit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

- Ops:**
- A. 6
 - B. -2
 - C. 25
 - D. 14

Reset

Q 20. Solve the given postfix expression.

3 2 + 5 / 4 +

- Ops:**
- A.
 - B.
 - C.
 - D.

Reset



Q 21. What will be the output of the following pseudo code for a=0, b=0?

```
1.  
2. Integer funn(Integer a, Integer b)  
3.     if(a<4 && a<3)  
4.         a=2+b+a  
5.         a=a+3  
6.     return funn(a,a)+a  
7. End if  
8. return a+b-1
```



Note- &&: Logical AND - The logical AND operator (&&) returns the Boolean value true(or 1) if both operands are true and return false (or 0) otherwise.

- Ops:**
- A.
 - B.
 - C.
 - D.

Reset

C. 7

D. 14

Reset

Q 22. What will be the output of the following pseudo code for $a=1$, $b=0$?

```
1.  
2. Integer funn(Integer a, Integer b)  
3.     if((2&b)>(b-2) && (a-b)>(b&a))  
4.         b=b+3  
5.         b=a+3  
6.         a=(b+3)+b  
7.         return funn(a,a)+a  
8.     End if  
9.     a=a+1  
10.    return b-a
```



Note- **&&**: Logical AND - The logical AND operator (**&&**) returns the Boolean value true(or 1) if both operands are true, return false (or 0) otherwise.

&: bitwise AND - The bitwise AND operator (**&**) compares each bit of the first operand to the corresponding bit of the second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

Ops: A. 23

B. -8

C. 12

D. 10

Reset

Q 23. What will be the output of the following pseudo code for $a=0$, $b=1$?

Q 23. What will be the output of the following pseudo code for $a=0$, $b=1$?

```
1.  
2. Integer funn(Integer a, Integer b)  
3.     if(1>a && (5-b)>(b-a))  
4.         a=b+2  
5.         b=3+2+b  
6.     return a+b+funn(b,a)-a  
7. End if  
8. b=(a+2)+a  
9. return a-1
```

Note- $\&&$: Logical AND - The logical AND operator ($\&&$) returns the Boolean value true(or 1) if both operands are true and return false (or 0) otherwise.

- Ops:**
- A. 11
 - B. 7
 - C. 23
 - D. 16

Reset



Q 24. Find out the array representation of the given max heap, if the value 30 is deleted from it.

43, 31, 30, 4, 6, 7

- Ops:**
- A. 43, 31, 7, 4, 6
 - B. 43, 7, 31, 4, 6
 - C. 43, 31, 4, 7, 6
 - D. 43, 31, 7, 6, 4

Reset

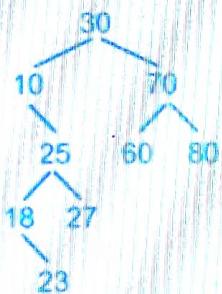
43, 31, 30, 4, 6, 7

- Ops:** A. 43, 31, 7, 4, 6
B. 43, 7, 31, 4, 6
C. 43, 31, 4, 7, 6
D. 43, 31, 7, 6, 4

Reset



Q 25.



Which of the following is the correct Inorder Traversal of the given tree?

- Ops:** A. 10-18-23-25-27-30-60-70-80
B. 23-18-27-25-10-60-80-70-30
C. 30-10-25-18-23-27-70-60-80
D. 30-10-70-25-60-80-18-27-23

Reset

SECTION 02/02
Next Section