



Capgemini on-campus drive kicked off on **23-August-2021** with the first slot happening on for the students from **9 am to 11 am**. This document details the **Slot Analysis** as well as **Pseudocode Answers to Questions** that students recollected post the test.

Disclaimer:

1. The questions showcased in this document have been recreated through memory, thanks to test-takers who recalled the questions post their test.
2. The questions repetition between the slots is expected to be very miniscule.
3. Please use this document as an indicative preparation tool, rather than exact replica of the questions that appeared or can appear in the Capgemini Pseudocode Online Test.

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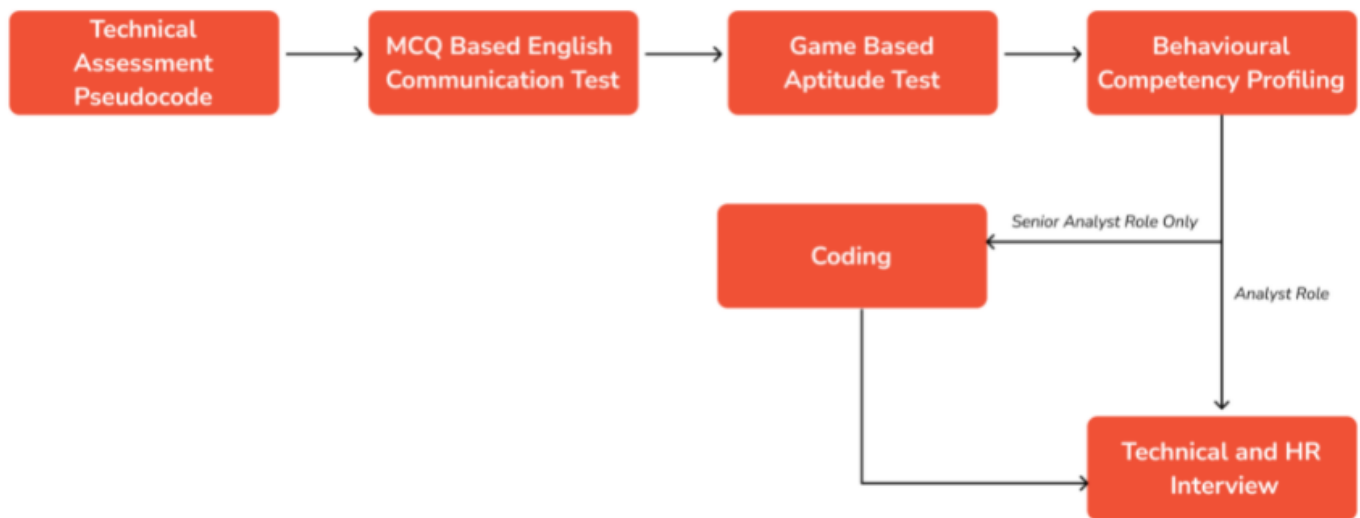
Capgemini Roles and Packages

The most common profiles that Capgemini recruit freshers for are:

- **Analyst (3.8 LPA)** - The most common profile hired for
- **Senior Analyst (6.8 LPA)** - This profile is open for select drives only



Capgemini Recruitment Process



Capgemini Online Test Pattern

Capgemini Online Test Pattern – Analyst Role

Round	Round Name		#Qs	Duration (In Mins)	Elimination
1	Pseudocode	Data Structures	10	25	Yes
		Algorithms	15		
2	English Communication		30	30	Yes
3	Game Based Aptitude		4 games	~20-30	Yes
4	Behavioural Competency		100	No Time Limit	No

Capgemini Online Test Pattern – Senior Analyst Role

Round	Round Name		#Qs	Duration (In Mins)	Elimination
1	Pseudocode	Data Structures	10	25	Yes
		Algorithms	15		
2	English Communication		30	30	Yes
3	Game Based Aptitude		4 games	~20-30	Yes
4	Behavioural Competency		100	No Time Limit	No
5	Coding		2	45	No

Note: Candidates who do not clear Coding round will be interviewed for Analyst role.

Capgemini Online Test Assessment Platform

Assessment Platform	Intra-sectional Navigation	Marking Scheme
AON-CoCubes	Allowed (Only in Pseudocode, English Communication and Coding Rounds)	No Negative Marking

Capgemini Pseudocode Test Syllabus

Section	Topic
Pseudocode	<ul style="list-style-type: none"> • Data Structures • Algorithms • OOPS



Capgemini English Communication Test Syllabus

Section	Topic
English Comprehension	<ul style="list-style-type: none"> • Reading Comprehension • Para-Jumbles • Direct and Indirect Speech • Active and Passive Voice • Sentence Correction • Sentence Completion

Capgemini Game Based Aptitude Themes

Section	Games Theme
Game Based Aptitude	<ul style="list-style-type: none"> • Deductive Logical Thinking • Inductive Logical Thinking • Grid Challenge • Motion Challenge

Capgemini Slot Analysis

- There was **100% topic repetition** from the syllabus trained by FACE Prep in its Capgemini training programme.
- Difficulty level of Pseudocode questions ranged from easy to moderate.
- Difficulty level of English Communication Test questions ranged from easy to moderate.
- Most of the questions in Pseudocode section were from Tree, Graph and Pre-fix and Post-fix operations.
- English Communication test was well stuffed with English Comprehensions, Sentence Corrections, Para-jumbles and Vocabulary.
- Overall Test Difficulty level settles around MODERATE



Capgemini Questions with Answers

Pseudocode Questions and Answers

ALGORITHMS

1. What will be the output of the following pseudo code?

```
1 Integer a,b,c
2 Set a=2, b=11, c=5
3 if ((4+5)<(6+b))
4 b=c&a
5 End if
6 Print a+b+c
```

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.

- A. 6
- B. 24
- C. 7
- D. 11

Answer: C

2. What will be the output of the following pseudo code?

```
1 Integer p,q,r
2 Set p=9, q=10, r=11
3 For (each r from 3 to 7)
4 q =1+r
5 if (6>p || (4+8)<(8+q))
6 q=2+r
7 End if
8 End for
9 Print p+q
```

- A. 22
- B. 18
- C. 31
- D. 13

Answer: B



3. What will be the output of the following pseudocode?

```
1 String str1= "err" , str2="Krr"  
2 Print (count Conso(upper(reverse(str2)+reverse(str1))))
```

Note: reverse(string) reverses the string, e.g. reverse('okay') returns 'Yako'.

countConso(string) returns the number of consonants in the string, e.g. countConso("okay") returns

2. upper(string) converts all the letters of the string to upper case, e.g. upper("Okay") returns "OKAY".

- A. 5
- B. 10
- C. 7
- D. 4

Answer: A

4. What will be the output of the following pseudo code?

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

- A. 96
- B. 15
- C. 33
- D. 26

Answer: B

5. What will be the output of the following pseudocode for a=2, b=7, c=7?

```
1  
2 Integer funn(Integer a, Integer b, Integer c)  
3 if ((b+a)<(a-b))  
4 a=a+c  
5 b=(10+10)+c  
6 End if  
7 Return a+b+c
```

- A. 26
- B. 14
- C. 16
- D. 18

Answer: C

6. What will be the output of the following pseudocode for p=7, q=2?



```
1
2 Integer funn(Integer p, Integer q)
3     if(p+q < 10)
4         Return 1+funn(p+1, q+1)
5     Else
6         Return 2
7 End if
```

- A. 20
- B. 2
- C. 12
- D. 3

Answer: D

7. What will be the output of the following pseudocode?

```
1 Integer a,b,c
2 Set a=6, b=8, c=10
3 For (each c from 2 to 4)
4     b=(2+5)+a
5     if ((8+3)<(6+b))
6         b=b+b
7         a=10&c
8     Else
9         Jump out of the loop
10    End if
11    a=(8+7)+c
12 End for
13 Print a+b
```

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.

- A. 88
- B. 59
- C. 69
- D. 74

Answer: C

8. What will be the output of the following pseudocode for a=8, b=1?

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



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.

- A. 11
- B. 25
- C. 16
- D. 18

Answer: C

9. What will be the output of the following pseudo code?

```
1  Integer p,q,r
2  Set p=9, q=10, r=11
3  For(each r fro 3 to 7)
4      q=1+r
5      if(6>p || (4+8)<(8+q))
6          q=2+r
7      End if
8  End for
9  Print p+q
```

- A. 18
- B. 13
- C. 22
- D. 31

Answer: A

10. What will be the output of the following pseudocode?

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

Note- ^ is the bitwise exclusive OR operator that compares each bit of its first operand to the corresponding bit of the 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.

- A. 55
- B. 40



- C. 46
- D. 43

Answer: D

11. What will be the output of the following pseudocode for a=8, b=1?

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

- A. -1
- B. 8
- C. 2
- D. 1

Answer: B

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

```
1 Integer p,q,r
2 Set p=7, q=3, r=8
3 for (each r from 3 to 7)
4     p=(5+11)^q
5     if ((q+r)>(r-q))
6         q=(7+9)+r
7         p=(p+q)+r
8     Else
9         q=(11^11)+q
10        Jump out of the loop
11    End if
12 End for
13 Print p+q
```

Note- ^ is the bitwise exclusive OR operator that compares each bit of the first operand to the corresponding bit of its second operand. If one bit is 0, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.

- A. 59
- B. 56
- C. 65
- D. 53

Answer: A



13. What will be the output of the following pseudocode?

```
1 String str1= "Qoq" , str2="oqo"  
2 Print (count Vowel(lower(lower(str1)+lower(str2)+lower(str1))))
```

Note: countVowel(string) returns the number of vowels in the string, e.g. countVowel("okay") returns 2. lower(string) converts all the letters of the string to lower case, e.g. lower("OkaY") returns "okay".

- A. 12
- B. 7
- C. 0
- D. 4

Answer: D

DATA STRUCTURES

1. Which of the following statements is incorrect for Linked list data structure?

- A. Memory allocation from Heap
- B. Memory allocation from stack
- C. Size is not fixed.
- D. It occupies more memory than array.

Answer: B

2. If you are using Bubble sort for sorting the given numbers in ascending order, then find out the number of swapping needed.

12, 16, 10, 7, 13, 3, 9

- A. 14
- B. 16
- C. 12
- D. 15

Answer: D

3. Find out the array representation of the given max heap, if the value 25 is inserted in it.

28,17,16,15,14

- A. 28,25,17,16,15,14
- B. 25,28,17,15,16,14
- C. 14,15,16,17,25,28
- D. 28,17,25,15,14,16

Answer: D

4. Convert the postfix expression into infix.

ab + cd * f/ -g +

- A. (a+b) * (c-d) / (f+g)
- B. A+b - (c * d) + (f/g)



- C. $((a+b) - ((c * d) / f)) + g$
D. $A + (b-c) / d * (f + g)$

Answer: C

5. If you are using Bubble sort for sorting the given numbers in ascending order, then find out the number of swapping needed.

3,10,4,7,9,2,6

- A. 12
B. 14
C. 11
D. 8

Answer: C

6. Evaluate the given postfix expression.

2 3 + 5 * 2 3 + 4 + *

- A. 210
B. 225
C. 220
D. 200

Answer: B

7. Evaluate the given postfix expression.

8 4 + 4 2 3 * + 2 + *

- A. 144
B. 128
C. 158
D. 162

Answer: A

8. If you are using bubble sort for sorting the given numbers in ascending order, then find out the number of swapping needed.

9,23,8,10,32,6,14

- A. 9
B. 12
C. 10
D. 11

Answer: C

9. Find out the array representation of the given max heap, if the value 20 is deleted from it.

22,21,20,19

- A. 21,22,19
B. 22,21,19
C. 19,21,22



D. 21,19,22

Answer: B

10. 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?

1,4,3,5,7,9

A. 5

B. 4

C. 3

D. 2

Answer: A

11. In a min heap, the left child is located at:

A. $2*k$ index

B. $(k+1)/2$ index

C. $k/2$ index

D. $2*k+1$. index

Answer: D

12. Which of the following data structures is non-linear?

A. Stack

B. Array

C. Graph

D. Linked List

Answer: C

13. Find out the array representation of the given min-heap, if the value 110 is inserted in it.

1,2,3,17,19,36,7,25,100

A. 1,3,2,17,19,36,7,110,100,25

B. 1,2,3,17,1,36,9,7,110,100,25

C. 1,2,3,17,19,36,7,25,100,110

D. 1,2,3,17,19,36,7,110,100,25

Answer: C

14. Find out the array representation of the given min heap, if the value 2 is deleted from it.

1,2,3,4

A. 1,4,3

B. 1,3,4

C. 4,3,1

D. 3,4,1

Answer: A

15. Linked lists are used to implement

1. Stack

2. Queue



3. Trees

- A. 1 and 2
- B. All 1, 2, and 3
- C. 1 and 3
- D. 2 and 3

Answer: B

16. Which of the following statements is/are correct for Double Linked List?

- 1. All the nodes have two links
- 2. Provides bidirectional traversing
- 3. Provides only unidirectional traversing

- A. 1 and 3
- B. 1 and 2
- C. Only 3
- D. Only 1

Answer: B

17. If you are using Bubble sort for sorting the given numbers in ascending order, the find out the number of swapping needed.

2,9,3,6,8,1,5

- A. 10
- B. 12
- C. 11
- D. 13

Answer: C

18. Convert the given Prefix expression into infix.

$+a - b + * c / d f g$

- A. $(a+b) - (c * d) + f/g$
- B. $A + (b - c/d) * (f + g)$
- C. $A + (b - ((c * (d/f)) + g))$
- D. $A + (b * c - d) / (f + g)$

Answer: C

19. Convert the postfix expression into infix.

$A b + c d * f / -g +$

- A. $A + b - (c * d) + (f/g)$
- B. $A + (b-c) / d * (f + g)$
- C. $(a + b) * (c-d) / (f + g)$
- D. $((a + b) - ((c * d / f)) + g$

Answer: D



20. If there is a binary tree of height 8, then what should be the maximum number of nodes in that tree?

- A. 511
- B. 255
- C. 256
- D. 512

Answer: B

21. If the base address of two dimensional array A[80] [20] is 700, then find out the address of an element a[1][8] in the array.

**** Assume 4 words per memory cell and elements are arranged in column major order.**

- A. 3245
- B. 3264
- C. 6543
- D. 3456

Answer: B

22. If the base address of two dimensional array A[70] [10] is 600, then find out the address of an element A[2][7] in the array.

**** Assume 4 words per memory cell and elements are arranged in column major order.**

- A. 2658
- B. 2543
- C. 2568
- D. 2345

Answer: C

23. Evaluate the given postfix expression.

10 5 4 2 + 5 * + 3 + *

- A. 220
- B. 280
- C. 320
- D. 380

Answer: D

24. How many nodes are present in a strictly binary tree with 8 leaves?

- A. 7
- B. 15
- C. 16
- D. 17

Answer: B

25. Find out the maximum number of nodes present in a binary tree of height 5.

- A. 16



- B. 32
- C. 15
- D. 31

Answer: D

26. If the base address of two dimensional array A[30] [50] is 500, then find out the address of an element A[5][10] in the array.

**** Assume 4 words per memory cell and elements are arranged in row major order.**

- A. 1189
- B. 1124
- C. 1160
- D. 1540

Answer: D

27. 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?

11, 13, 12, 14, 10, 9

- A. 2
- B. 5
- C. 4
- D. 3

Answer: C

28. 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?

12, 13, 16, 10, 9, 7

- A. 4
- B. 2
- C. 5
- D. 3

Answer: A

29. Find out the maximum number of nodes present in a tree of height 6.

- A. 31
- B. 63
- C. 64
- D. 32

Answer: B

30. Find out the array representation of the given min-heap, if the value 10 is inserted in it.

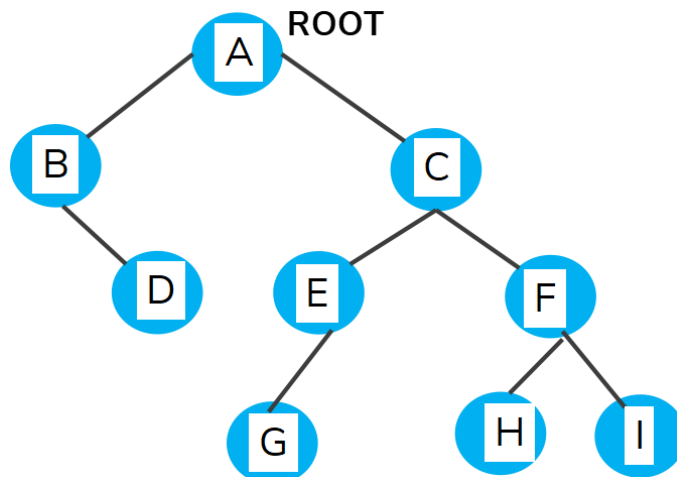
5, 6, 9, 17, 18

- A. 5, 6, 9, 10, 17, 18
- B. 5, 6, 9, 17, 18, 10
- C. 6, 9, 5, 17, 18, 10

D. 9, 5, 6, 17, 18, 10

Answer: B

31. Which of the following is the correct order of the nodes visited during an in-order traversal of the given noded tree?



- A. B-D-A-G-E-C-H-I-G
- B. B-D-A-G-E-C-H-F-I
- C. D-B-A-G-E-C-H-F-I
- D. D-B-A-G-E-C-H-I-F

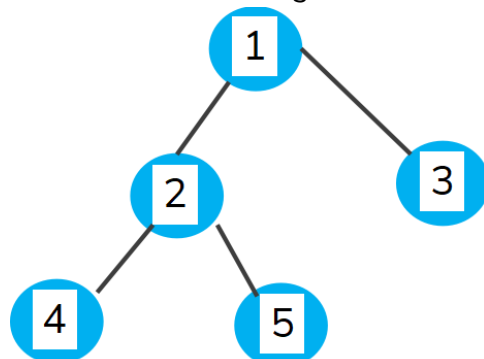
Answer: B

32. Which of the following statements is/are TRUE for array data structure?

- A. Memory allocation from stack.
- B. Memory allocation from Heap
- C. All of the mentioned options
- D. Size is not fixed.

Answer: A

33. Which of the following is the correct post-order traversal of the given tree?

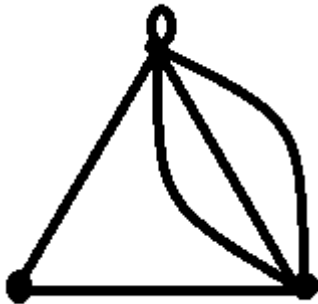


- A. 1 2 4 5 3
- B. 4 5 2 3 1
- C. 1 2 3 4 5

D. 4 2 5 1 3

Answer: B

34. Find out the sum of the degree of vertices in the pseudograph as shown in the image.



A. 12

B. 6

C. 11

D. 8

Answer: C

35. If the base address of two dimensional array $A[10][20]$ is 100, then find out the address of an element $A[2][6]$ in the array.

** Assume 4 words per memory cell and elements are arranged in row major order.

A. 286

B. 284

C. 245

D. 278

Answer: B