



Welcome to 2023-24 Goldman Sachs Campus Hiring CS Test | FT | 15 Nov 2023

Test duration No. of questions
60 mins 14 questions

Hyderabad

Declaration Statement *



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Agree & Start

22°C
Partly cloudy



Search



ENG
IN



19:57
15-11-2023

1. OOPs

What will be the output of the program given below?:

```
class Hello
{
    void m1()
    {
        System.out.print("H1");
    }
    void m2()
    {
        System.out.print("H2");
        m1();
    }
}
class Test10 extends Hello
{
    void m1()
    {
        System.out.print("T1");
    }
}
public static void main(String[] args)
```



ALL



1

2

3

4

5

```
{
    System.out.print("T1");
}
public static void main(String[] args)
{
    Test10 t=new Test10();
    t.m2();
    Hello h1=new Hello();
    h1.m2();
}
}
```

Pick **ONE** option

H2T1H2H1



H2H1H2H1

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15-11-2023



ALL



1

2

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☐ H2T1H2H1☐ H2H1H2H1☐ Compile time Error☐ H2T1H2T1

Clear Selection

2. Tree Traversal

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2. Tree Traversal

ALL

Pick **ONE** option☐ 12 15 35 13 14 46 1 6 44 57☐ 12 35 15 46 13 14 57 1 44 6☐ 57 46 35 12 15 14 13 44 1 6☐ 57 46 44 35 14 12 15 13 1 6

Clear Selection





3. Unbalanced Tree

ALL



Create a search tree with the given elements. 42 15 76 87 52 60 48 33. Delete 33. If the tree is unbalanced, what is the minimum no of rotations needed to balance the tree?

Pick **ONE** option

☐ 1☐ 2☐ 3☐ 4

Clear Selection

1

2

3

4

5





4. Sorting Algorithm

ALL



Identify the type of sorting performed in the below code:

```
void Test(int arr[], int n)
{
    int i, key, j;
    for (i = 1; i < n; i++)
    {
        key = arr[i];
        j = i-1;
        while (j >= 0 && arr[j] > key)
        {
            arr[j+1] = arr[j];
            j = j-1;
        }
        arr[j+1] = key;
    }
}
```





```
}  
    arr[j+1] = key;  
}  
}
```

ALL

Pick **ONE** option

2

☐ Selection Sort

3

☐ Bubble Sort

4

☐ Quick Sort

5

☐ Insertion Sort

6

Clear Selection



5. Heap

What task does the below function perform?

```
void Test(int arr[], int N, int index)
{
    int largest = index;
    int left = 2*index + 1;
    int right = 2*index + 2;

    if (left < N && arr[left] > arr[largest])
        largest = left;

    if (right < N && arr[right] > arr[largest])
        largest = right;

    if (largest != index)
    {
        swap(arr[index], arr[largest]);
        Test(arr, N, largest);
    }
}
```



ALL

Pick **ONE** option

3



Sort a heap tree

4



Heapify

5



Insert in a heap tree

6



Delete from a heap tree

7

Clear Selection

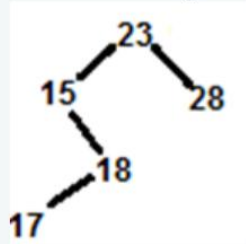
```
{
    swap(arr[index], arr[largest]);
    Test(arr, N, largest);
}
```





6. BST

Consider the BST given below:



What will be the in-order traversal of the above tree?

Pick **ONE** option

☐ 15 18 17 23 28

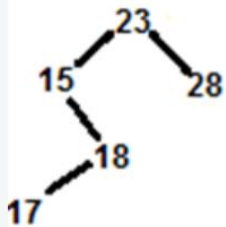
☐ 15 23 28 17 18

☐ 17 18 15 23 28





ALL



What will be the in-order traversal of the above tree?

Pick **ONE** option☐ 15 18 17 23 28☐ 15 23 28 17 18☐ 17 18 15 23 28☐ 17 18 23 15 28

Clear Selection



7. Code Error

Given:

```
class Hello
{
    Hello()
    {
        System.out.println("Hi");
    }
}
class Test10 extends Hello
{
    void m1()
    {
        System.out.println(this); //Line-11
        System.out.println(super); //Line-12
    }
    public static void main(String[] args)
    {
        Test10 t=new Test10();
        System.out.println("Hello");
    }
}
```



```
t.ml();  
}  
}
```

ALL



Which of the options given below is/are true about the above program?

- I) Error at Line-11
- II) Error at Line-12
- III) No error

Pick **ONE** option

☐ Only (I)☐ Only (II)☐ Only (III)☐ Both (I) and (II)



8. Print output

In the following program, how many times, i will be printed?

```
main()
{
    int i=1;
    fork();
    fork();
    fork();
    printf("%d",i);
}
```

Pick **ONE** option

☐ 3☐ 8



ALL

Pick **ONE** option☐ 3☐ 8☐ 4☐ 6

Clear Selection

```
fork();  
printf("%d",i);  
}
```

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9. Perfect Square

N is a perfect square number consisting of x digits. If each of the digits is increased by $(x-3)$, then the new number formed is also a perfect square. Find the sum of digits of N if $x = 4$.

Pick **ONE** option

☐ 8☐ 7☐ 9☐ 6

Clear Selection





10. Probability

ALL



There are 99 employees in a bank, each employee has a Unique Identification number (N) that lies between (100, 200). If an employee is picked randomly, then find the probability that N is divisible by either 4 or 7.

Pick **ONE** option

☐ 0.3434☐ 0.5656☐ 0.2323☐ 0.1212

Clear Selection

8

9

10

11

12



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