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Test Name: Scaler Academy Entrance Quiz

Duration : 40 mins   **Extra Time :** 0 min
Total Questions : 16
Attempted : 14   **Solved :** 10
Start Time : Thursday, 28 Oct 2021 7:00 PM +0530

Score
61.54
/100

QUESTION STATS

#	Problem	Type	Language	Score	Status	View Code
1	Minimum Possible Maximum Sum	⊞	NA	**50.0 / 50**	**Solved**	

You have an array of 10 integers: [19, 81, 2, 41, 61, 59, 28, 69, 76, 88]. Find a way to divide these integers into 5 pairs, such that, if you add up the numbers in each pair, then the maximum sum among the 5 pairs is minized. What is the minimum possible maximum sum?
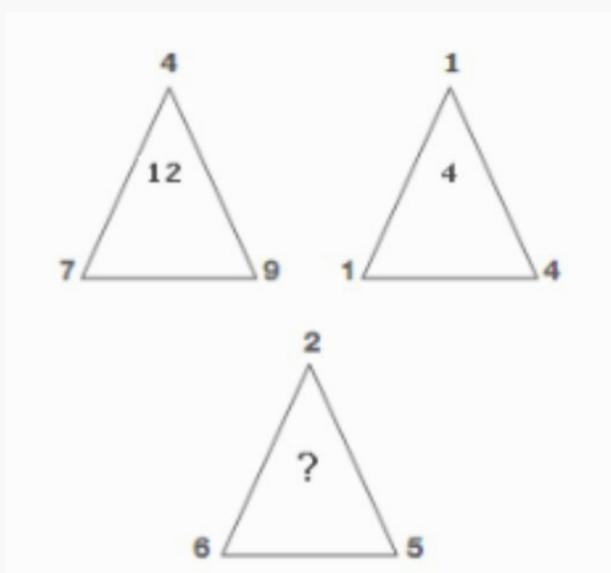
- ○ 90
- ○ 169
- ◉ **120**
- ○ 21

#	Problem	Type	Language	Score	Status	View Code
2	Find Age	⊞	NA	**0.0 / 50**	**Wrong Answer**	

Akash is twice as old as Aman was when Akash was as old as Aman is now. The combined age of Akash and Aman is 112 years. How old are Akash and Aman now?

- ○ Akash: 62 Aman: 50
- ◉ **Akash: 64 Aman: 48**
- ◉ **Akash: 60 Aman: 52**
- ○ Akash: 63 Aman: 49

#	Problem	Type	Language	Score	Status	View Code
3	Replace Number	⊞	NA	**50.0 / 50**	**Solved**	

Which number replaces the question mark?

- ○ 1
- ○ 8
- ◉ **9**
- ○ 4

#	Problem	Type	Language	Score	Status	View Code
4	Find Oldest	⊞	NA	**30.0 / 30**	**Solved**	

Four friends meet after lockdown and decided to party. They decided that the oldest friends would pay the bill. Akash is two months older than Ajay, who is three months younger than Abhishek. Alice is one month older than Ajay. Who will pay the Bill?

- ○ Akash
- ◉ Abhishek
- ○ Ajay
- ○ Alice

5	Selection Probability	⊞	NA	**0.0 / 50**	**Unsolved**

5 candidates are applying for a job interview. Probability of getting selected is 1/2 for each candidate. What is the probability that atleast two candidates are selected ?

6	Maths-2	⊞	NA	**0.0 / 50**	**Wrong Answer**

```
How many ways are there to collect 8 Rs when you have an infinite number of 1 and 2 Rs coins?
```

- ◉ 5
- ◉ 4
- ○ 3
- ○ 2
- ○ None of the Above

7	Maths-3	⊞	NA	**0.0 / 50**	**Unsolved**

What is the rank of the word "BALL" in a dictionary that contains all permutation of the word "BALL" ?

8	Maths-4	⊞	NA	**50.0 / 50**	**Solved**

```
What is the smallest number that is divisible by each of the numbers given below

{1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }
```

- ◉ 2520
- ○ 1260
- ○ 5040
- ○ 3780
- ○ None of the above

9	Time Complexity - 6	⊞	NA	**50.0 / 50**	**Solved**

What is the time complexity of the following:

- C++
- Java
- Python

```
unordered_set s;
for (int j = 0; j < n; j++) {
    s.insert(j);
}
```

```
HashSet < Integer > s = new HashSet < Integer > ();
```

```
for (int j = 0; j < n; j++)
    s.add(j);
```

```
s = set()
for j in range(n):
    s.add(j)
```

- ◉ **O(n)**
- ○ O(logn)
- ○ O(nlogn)
- ○ O(n^2)
- ○ None of the above

| 10 | Time Complexity - 5 | 88 | NA | **50.0 / 50** | **Solved** |

Find time complexity of the following function:

- C++

```
void func(vector & amp; A, vector & amp; B) {
    A.swap(B);
}
```

NOTE: Length of A = Length of B = n

- ◉ **O(1)**
- ○ O(n)
- ○ o(logn)
- ○ o(n^2)
- ○ None of the above

| 11 | Time Complexity - 4 | 88 | NA | **0.0 / 50** | **Wrong Answer** |

What is the time complexity of the following code snippet:

- C++
- Java

```
set < int > s;
for (int i = 1; i <= n; i++) {
    s.insert(i);
}
for (int i = 1; i <= n; i++) {
    for (int j = i; j <= n; j += i) {
        s.insert(j);
    }
}
```

```
TreeSet < Integer > s = new TreeSet < > ();
for (int i = 1; i <= n; i++) {
    s.add(i);
}
for (int i = 1; i <= n; i++) {
    for (int j = 1; j <= n; j += i) {
        set.add(j);
    }
}
```

- ○ O(n)
- ○ O(n^2)
- ◉ **O(nlogn)**
- ◉ **O(n log^2(n))**
- ○ None of the above

What will be the time complexity of the above function where n is a positive integer?

- [C++](#)
- [Java](#)
- [Python](#)
- [C#](#)
- [JS](#)

```cpp
void function (int n) {
    while (n > 0) {
        n++;
        n -= 2;
    }
}
```

```java
public void function (int n) {
    while (n > 0) {
        n++;
        n -= 2;
    }
}
```

```python
def function(n):
    while(n > 0):
        n += 1
        n -= 2
```

```csharp
public void function (int n) {
    while (n > 0) {
        n++;
        n -= 2;
    }
}
```

```js
function solve(n) {
  while(n > 0) {
   n++;
      n -= 2;
  }
}
```

- ◯ Infinite loop
- ◉ O(n)
- ◉ O(nlogn)
- ◯ O(logn)
- ◯ None of the above

What will be the value of sum after running the below function?

- [C++](#)
- [Java](#)
- [Python](#)
- [C#](#)
- [JS](#)

```cpp
void function(){
    int i = 0;
    int sum = 0;
    while(i < 100){
        sum = sum + i;
        sum = i + sum;
        i += 1;
    }
    cout<<sum;
}
```

```java
void function(){
    int i = 0;
    int sum = 0;
    while(i < 100){
        sum = sum + i;
        sum = i + sum;
        i += 1;
    }
    System.out.println(sum);
}
```

```python
def function():
    i = 0
    sum = 0
    while(i < 100):
        sum = sum + i
        sum = i + sum
        i += 1
    print(sum)
```

```
public void function(){
    int i = 0;
    int sum = 0;
    while(i < 100){
        sum = sum + i;
        sum = i + sum;
        i += 1;
    }
    Console.Write(sum);
}
```

```javascript
function solve() {
  var i = 0;
  var sum = 0;
  while (i < 100 ) {
   sum = sum + i;
     sum = i + sum;
     i++;
  }
  console.log(sum)
}
```

- ◯ 10000
- ◉ **9900**
- ◯ 10100
- ◯ 5000
- ◯ None of the above

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14   Coding Comprehension Output 12   ⊞   NA   **50.0 / 50**   **Solved**

What will be the output from the following code for **n = 6** :

- [C++](C++)
- Java
- Python
- [C#](C#)
- [JS](JS)

```cpp
int printTribRec(int n) {
    if (n == 0 || n == 1 || n == 2)
        return 0;
    if (n == 3)
        return 1;
    else
        return printTribRec(n - 1) + printTribRec(n - 2) + printTribRec(n - 3);
}
void printTrib(int n) {
    for (int i = 1; i < n; i++)
        cout << printTribRec(i) << "  ";
}
```

```java
static int printTribRec(int n) {
    if (n == 0 || n == 1 || n == 2)
        return 0;
    if (n == 3)
        return 1;
    else
        return printTribRec(n - 1) + printTribRec(n - 2) + printTribRec(n - 3);
}

static void printTrib(int n) {
    for (int i = 1; i < n; i++)
       System.out.print(printTribRec(i)+" ");
}
```

```python
def printTribRec(n):
    if (n == 0 or n == 1 or n == 2):
        return 0
    if (n == 3):
        return 1
    else:
```

```
        return printTribRec(n - 1) + printTribRec(n - 2) + printTribRec(n - 3)

def printTrib(n):
    for x in range(1, n):
        print(printTribRec(x))
```

```
static int printTribRec(int n) {
    if (n == 0 || n == 1 || n == 2)
        return 0;
    if (n == 3)
        return 1;
    else
        return printTribRec(n - 1) + printTribRec(n - 2) + printTribRec(n - 3);
}

static void printTrib(int n) {
    for (int i = 1; i < n; i++)
        Console.Write(printTribRec(i)+" ");
}
```

```
function printTribRec(n) {
    if (n == 0 || n == 1 || n == 2)
        return 0;
    if (n == 3)
        return 1;
    else
        return printTribRec(n - 1) + printTribRec(n - 2) + printTribRec(n - 3);
}
function printTrib(n) {
    var ans = 0;
    for (var i = 1; i < n; i++) {
        ans = ans + printTribRec(i) + " ";
    }
    console.log(ans);
}
```

- ( ) **0 0 1 1 2**
- ( ) 0 0 0 1 0
- ( ) 1 2 3 4 5
- ( ) 0 0 0 1 1 2

| 15 | Fibonacci Output | 88 | NA | **50.0 / 50** | **Solved** |

What will be the output from the following code for **n = 6** :

- C++
- Java
- Python
- C#
- JS

```
int fib(int n) {
    if (n <= 1)
        return n;
    return fib(n - 1) + fib(n - 2);
}
```

```
public int fib(int n) {
    if (n <= 1)
        return n;
    return fib(n - 1) + fib(n - 2);
}
```

```
def fib(n):
    if (n <= 1):
        return n
    else:
        return fib(n - 1) + fib(n - 2)
```

```
public int fib(int n) {
    if (n <= 1)
        return n;
    return fib(n - 1) + fib(n - 2);
}
```

```
function fib(n) {
  if (n <= 1 )
    return n;
  return fib(n - 1) + fib(n - 2);
}
```

- ⦿ 8
- ○ 7
- ○ 6
- ○ 5

16	Coding Comprehension Question 8	⊞	NA	50.0 / 50	Solved

Predict the output of the following code:

- [C++](#)
- [Java](#)
- [Python](#)
- [C#](#)
- [JS](#)

```c
int fun(int A, int B) {
    if (B == 0)
        return A;
    else
        return fun(B, A % B);
}
int main() {
    int ans = fun(100, 2000);
    printf("%d", ans);
    return 0;
}
```

```java
public int fun(int A, int B) {
    if (B == 0)
        return A;
    else
        return fun(B, A % B);
}
public void main() {
    int ans = fun(100, 2000);
    System.out.println(ans);
}
```

```python
def fun(A, B):
    if (B == 0):
        return A
    else:
        return fun(B, A % B)

ans = fun(100, 2000)
print(ans)
```

```csharp
public int fun(int A, int B) {
    if (B == 0)
        return A;
    else
        return fun(B, A % B);
}
public void main() {
    int ans = fun(100, 2000);
    Console.Write(ans);
}
```

```javascript
function fun(A, B) {
  if (B == 0)
    return A;
  return fun(B, A % B);
}
var ans = fun(100, 2000);
console.log(ans);
```

- ○ Compile time error
- ⦿ 100
- ○ Depends on the compiler
- ○ 2000

Restricted Events

Time	Event Name	IP Address