

STAGE

Qualification Test - Backend

End Stage

Questions

- Total 5 Questions
1. Spiral Rhombus Pattern ()
 2. Happy Trees ()
 3. ()
 4. ()

← Previous Question

Note:

- You can do multiple submissions.
- Your highest score will be considered

00D : 02H : 33M : 50S



Happy Trees

You're given a balanced bracket expression. In the forest representation, the number of trees which are happy. A happy tree is a tree in which every internal node has the same number of children. A tree with just one node is also considered happy.

Input Format

First line of input consists of an integer t denoting the number of test cases. Each test case consists of an integer n denoting the length of the bracket expression. Second line consists of the bracket expression.

Output Format

For each test case, find the number of trees which are happy.

Constraints

$$1 \leq t \leq 1000$$

$$n = 2 * m \text{ where } 1 \leq m \leq 1000$$

Sample Input

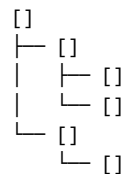
```
4
12
[[[]][[]]]
20
[[[]][[]][[]][[]]]
14
[[[]][[]][[]]]
28
[[[]][[]][[]][[]][[]][[]]]
```

Sample Output

```
0
1
2
3
```

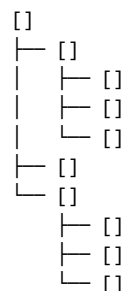
Explanation

The expression `[[[]][[]]]` has the following representation



There is only one tree. Root and second child of root has two children. Third child of root has only one child. It's not happy.

The expression `[[[]][[]][[]][[]]]` has the following representation



There is only one tree. All non-leaf vertices have exactly 3 children. Tree is happy.

The expression `[[[]][[]][[]]]` has the following representation

Qualification Test - Backend

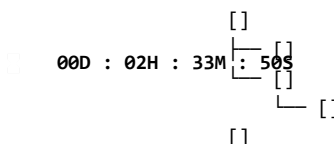
End Stage

Questions

1. Spiral Rhombus Pattern ()
2. Happy Trees ()
3. ()
4. ()

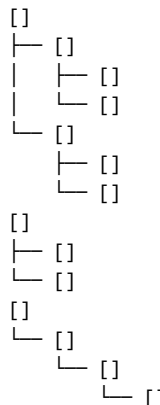
Note:

- You can do multiple submissions.
- Your highest score will be considered



There are three trees. Only two of them are happy.

The expression $\left[\begin{matrix} 1 & 0 \\ 0 & 1 \end{matrix} \right]$ has the following repre



The number of happy trees is 3.

Environment

Read from STDIN and write to STDOUT.

Please check the sample programs below which print the sum of two received as input

- **Bash** goo.gl/bMZzAh (<https://goo.gl/bMZzAh>)
- **C** goo.gl/4zRfEC (<https://goo.gl/4zRfEC>)
- **C#** goo.gl/X1Svfp (<https://goo.gl/X1Svfp>) (Mono JIT Compiler)
- **C++** bit.ly/2Io1VND (<https://bit.ly/2Io1VND>)
- **Clojure** goo.gl/teZHZL (<https://goo.gl/teZHZL>)
- **Go** goo.gl/hWHToi (<https://goo.gl/hWHToi>)
- **Java** bit.ly/3dc9uDT (<https://bit.ly/3dc9uDT>) (Remove package and keep the main class (class containing the main method) na (small case))
- **JavaScript** goo.gl/L3jxM6 (<https://goo.gl/L3jxM6>)
- **Kotlin** goo.gl/qTMk6v (<https://goo.gl/qTMk6v>)
- **PHP** goo.gl/p26tnC (<https://goo.gl/p26tnC>)
- **Python2** bit.ly/2T1TGU4 (<https://bit.ly/2T1TGU4>)
- **Python3** bit.ly/2AsphPm (<https://bit.ly/2AsphPm>)
- **Ruby** goo.gl/PhpUyX (<https://goo.gl/PhpUyX>)
- **Rust** bit.ly/2I9onK8 (<https://bit.ly/2I9onK8>)
- **Scala** bit.ly/2KsaNAH (<https://bit.ly/2KsaNAH>)
- **Swift** goo.gl/fX3kdj (<https://goo.gl/fX3kdj>)
- **Perl** bit.ly/3k9ar2n (<https://bit.ly/3k9ar2n>)
- **Erlang** bit.ly/35Uaaqb (<https://bit.ly/35Uaaqb>)

Instructions

- Read from Standard Input Stream (stdin) and write to Standard (stdout) unless specified otherwise.
- The dashboard provides two modes.
 - Test runs your code against public/sample test cases.
 - Submit runs against private/hidden ones.
- Only public/sample test cases and their elaborate "test" results are available. A line by line comparison with expected output is shown. Score for passing the public test cases. It's only for testing and debugging.
- For the private/hidden test cases, the judging system only shows the passed status, time consumption, memory consumption and score. A "submit" will yield a score. Total score is a normalized weighted sum of all test cases.
- If the code reaches execution time limit and it is still running, it is a timeout and is declared.
- Use the help button in case you require any help.

STAGE

Qualification Test - Backend

Questions

- 1. Spiral Rhombus Pattern ()
- 2. Happy Trees ()
- 3. ()
- 4. ()

Note:

- You can do multiple submissions.
- Your highest score will be considered

3662b5-411d-93e6-445131c7efbb/ir t) 0 1

1250S

00D : 02H : 33M : 50S

[[[[]]][]]]

20

[[[[]]][]]]

14

[[[[]]][]]]

12

1

2

3

3

0

2

Change file

Java 8

1