Class Task (Basic)

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1. Guess number 1 to 100

Generate a random number n, and let user to guess. Here is a sample IO. Suppose the answer is 23

```
1   Welcome to Guess Number
2   Please Guess a number between 1 to 100:
3   > 50
4   Please Guess a number between 1 to 50:
5   > 1
6   Please Guess a number between 1 to 50:
7   > 24
8   Please Guess a umber between 1 to 24:
9   > 23
10  Correct!
```

For the randomization, you may need the header `<cstdlib>` and `<ctime>`.

2. X'mas tree

Input the height of X'mas tree h, $1 \leq h \leq 20$, and build the X'mas tree. The width of tree trunk is $width/3$ round up. Here is a sample IO.

```
1   Marry Christmas!
2   Please input the height of tree:
3   > 1
4   *
5   |
6   Please input the height of tree:
7   > 5
8        *
9       ***
10     *****
11    *******
12   *********
13      | |
```

3. Enumeration

Input N, $1 \leq N \leq 10$, output $\frac{N(N+1)}{2}$ integers, where the ith line contains i integers separated by a space, the right most integer is 1 and other integers are greater then the integer on its right by $i - 1$. Here is a sample IO:

```
1   > 4
2   1
3   2 1
4   5 3 1
5   10 7 4 1
```

4. Fibonacci

Input i, output i^{th} Fibonacci number. If you don't know what is Fibonacci number, google it.

```
1   >1
2   1
3   >3
4   2
5   >8
6   21
```