# [CS 11] Prac 0n – Pataas at Pababa

**oj.dcs.upd.edu.ph**/problem/cs11prac0n

Submit solution
Points: 300 (partial)

Time limit: 4.0s

Memory limit: 1G

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Problem type

Allowed languages

~~NONE~~, py3

## Problem Statement

We say an integer is **bitonic** if, roughly speaking, its digits *go up then go down*. More precisely, an integer is bitonic iff there exists a digit such that:

- the sequence of digits from the beginning up to that digit is nondecreasing, and
- the sequence of digits from that digit to the end is nonincreasing.

For example, the following integers are bitonic:

- 1358975310.
- 33555581100.
- 2998.
- 111118.
- 123.
- 321.
- 7722.
- 7777777.

The following integers are not bitonic:

- 202.

- 123432101.
- 314159.

Given a positive integer n$n$, what is the largest bitonic integer at most n$n$?

### Task Details

Your task is to implement a function called `largest_bitonic_at_most`. This function has a single parameter `n`, an `int`, whose meaning is described in the problem statement.

The function must return an `int` denoting the largest bitonic integer at most n$n$.

For this problem:

- binding/assignment statements are allowed.
- recursion is allowed.

### Example Calls

**Example 1 Function Call**

Copy

```
largest_bitonic_at_most(2998)
```

**Example 1 Return Value**

Copy

```
2998
```

**Example 2 Function Call**

Copy

```
largest_bitonic_at_most(202)
```

**Example 2 Return Value**

Copy

```
200
```

### Constraints

When the program is run:

- The function `largest_bitonic_at_most` will be called at most 1,0001,000 times.
- In each function call, $1 \leq n < 10^{200}$.

### Scoring

- You get 100100 ❤️ points if you solve all test cases where $n < 10{,}000$.
- You get 200200 💔 points if you solve all test cases.

Thus, you can earn up to 300300 points from this problem.
Report an issue

## Clarifications

No clarifications have been made at this time.