# Java Software Development

# Homework 3

Deadline: 2016/03/24 23:00

# Problem Description

- A special number is a positive integer which prime factors only include 2, 3, 5.
- Write a program to determine whether a given number is a special number, and find the $n^{th}$ one.
- For example, `1,2,3,4,5,6,8,9,10,12` is the sequence of the first 10 special numbers.

- Given an equation `X=M`, you should print whether `M` is a special number. Or given another equation `Y=N`, you should print the $N^{th}$ special number.
- For example:
  - Given `X=5`, you should print `true`.
  - Given `Y=9`, you should print `10`.
- The input is given from `args[0]`.

# Sample Input and Output

| Input | X=8 |
|---|---|
| Output | true |

| Input | X=13579 |
|---|---|
| Output | false |

| Input | Y=10 |
|---|---|
| Output | 12 |

| Input | Y=999 |
|---|---|
| Output | 51018336 |

# Scoring Criteria

- Correctness: 80%
  - Note that TA will test your program with more than one test case.
- Coding standards: 20%
- Plagiarism is strictly forbidden

Follow up:

Can you improve the runtime of your program? (Hint: dynamic programming)

# Submission

- Please archive your source code to `STUDENT_ID.zip` and upload to Moodle before deadline
- Your zip file should follow the format depicted in the document `"Java Online Judge System Manual.pdf"`
- Remember to test your code on *Java Online Judge System* before uploading to Moodle
- No late submission is accepted

If you have any problem about this homework,
please contact TA: 游傑麟 (ygl0118@gmail.com)