

Programming Design, Spring 2015

Suggested Solution for Homework 5

Solution provider: Tammy Chang

Problem 1

(a) 62

(b) $f(n, m, a, b) = (n - 1) \times a + \lceil \sqrt[m]{n} \rceil \times b + 1$, where $\lceil x \rceil$ is the smallest integer that is not less than x .

(c) The reason is that in `n--` statement, the program will return the value of `n` before executing `--` operation. If the `n - 1` statement is replaced by `n--`, the program will invoke the function with the same value of `n` again and then executes the `--` operation. Therefore, the same value of `n` is passed repeatedly to the function and an infinite loop is caused.

Problem 2

Please see the 150501.cpp file.

Problem 3

Please see the 150502.cpp file.