資料結構作業 10/23

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第一題

題目:

Ackermann's function $A(m,n)$ is defined as follows:

$$A(m,n) = \begin{cases} n+1 & \text{, if } m = 0 \\ A(m-1,\ 1) & \text{, if } n = 0 \\ A(m-1,\ A(m,n-1)) & \text{, otherwise} \end{cases}$$

This function is studied because it grows very fast for small values of m and n. Write a recursive function for computing this function. Then write a nonrecursive algorithm for computing Ackermann's function.

以遞迴的方式寫出阿克曼函數

實作檔案: 10231.cpp

其遞迴函式:

```cpp
int ackermann(int m, int n)
{
        if (m == 0)
        {
                return n + 1;
        }
        else if (n == 0)
        {
                return ackermann(m - 1, 1);
        }
        else
        {
                return ackermann(m - 1, ackermann(m, n - 1));
        }
}
```