

## Bonus 1

系級:運管 15

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### 一、Power:

Form1

Power Polynomials

x = 5

n = 20

$x^n$

iteration = 1000000

Algorithms in power

- ☒ recursive
- ☒ for-loop
- ☒ library math.h
- ☒ fast power

x= 5, n= 20, iteration= 1000000  
Recursive ans: 95367431640625 Time: 0.064  
For-loop ans: 95367431640625 Time: 0.011  
Library math.h ans: 95367431640625 Time: 0.001  
Fast power ans: 95367431640625 Time: 0.016

總共有四種方法:遞迴、for 迴圈、使用#include <math.h>、快速冪

### 二、Polynomial:

1. 輸入 x, n, range 後使用隨機生成 coefficient，並計算結果

Form1

Power Polynomials

x = 2

n = 5

coef range = 20

Generate random coef and compute

Load coef from file and compute

Formulations: (16)x^0 + (-13)x^1 + (-17)x^2 + (19)x^3 + (10)x^4  
Answers: 234

## 2. 讀入檔案

檔案格式:最上面是 x 的值，第二排為 coefficients 的值，最後一排是次方的值(可輸入相同的次方，且可以不用照順序輸入)

