Programming Assignment #1 - NOTE

Deadline: 15:00 (pm), May 17, 2019

Submission: Place all of your files into a folder and zip it. Name the zip file after your student ID. E.g. if your student ID is A12345678, the file name should be "A12345678.zip". Upload the zip file to "ceiba". The folder must contain the following.

- Program files (source, object…). Your code must can be cross-platform compiled and readable.

- A simple report describing your project, analyzing the algorithms and your program (such as time-complexity…), or/and including any other things which you think should be mentioned. Depict the bonus part and the corresponding results here if you work on it. This report should not exceed 5 pages excluding bibliography.

- A txt file named **"output.txt"** including the computing results of the algorithm Optimal, MTF, Transpose, BIT, and FC, respectively, for i = 50, 100, …, 1000. In each part, it starts with the name of the algorithm and a colon ":" such as "MTF:". Then, in a new line ('\n'), for each i, output the result of the computation. Notice that the initial random bits for 0, 1, …, 9, should be nominated and recorded in the line after the one for the name of the algorithm, i.e. BIT:, and before the output of the computations. See "Prog1.pdf" and "(ref)output.txt" for more details. The following is an example for the output format.

```
Optimal:
171
374
…
4025
MTF:
276
…
5494
Transpose:
275
5418
BIT:
1110010100
265
575
```

…

5617

FC:

267

…

5656

Should you have questions, please send your inquiries to the TA at bottlebottle13@gmail.com.

程式作業 #1 繳交說明

繳交期限: 15:00 (pm), XX, 2019
繳交方式: 上傳至 ceiba
繳交格式: 請將所有檔案壓縮到一個 zip 檔，並以你的學號作為檔案名稱。例: 假設你的學號為 A12345678，則上傳的檔案為 "A12345678.zip"。其中，須包含下述檔案。

- 程式檔 (source, object…)。你的程式碼必須可跨平台編譯並執行，且須有一定的可讀性。

- 說明檔。簡單說明你的作業內容、對問題的分析(如時間複雜度…)、或任何其他你認為值得說明的事項。Bonus 的結果與說明也請放在這份文件中。此份文件的長度以 5 頁為上限(不含參考資料)。

- 一名稱為 "output.txt" 的文字檔，其內容為依序對 Optimal、MTF、Transpose、BIT 與 FC 等演算法對 input 到第 i=50,100,…,1000 步(含)時計算結果的輸出 (注: 此處，對 Optimal 演算法，不同的 i 值，請將其視為不同的 input 長度。對其餘的演算法，i 值在這裡可被視為步數或 input 之長度)。每一部分分別以該演算法的名稱並加上冒號 ":" 作為開頭。如 "MTF:"。接著換行('\n')輸出不同 i 值的計算結果。BIT 演算法的輸出須特別注意。請在演算法名稱的下一行與計算結果輸出的前一行，先註明你給予 0,1,…,9 等元素的 random bit 的初始值。關於上述演算法的定義請參考 "Prog1.pdf"。以下為一輸出範例，或參考 "(ref)output.txt"。

> Optimal:
>
> 171
>
> 374
>
> …
>
> 4025
>
> MTF:
>
> 276
>
> …
>
> 5494
>
> Transpose:
>
> 275
>
> 5418
>
> BIT:
>
> 1110010100
>
> 265
>
> 575
>
> …

5617

FC:

267

...

5656

如對上述如有任何疑問，請寄信至 bottlebottle13@gmail.com 與助教聯絡。