**1.Briefly describe how you implement the algorithms and your parallel design(15%):**

the design, the higher the score. (15%)　這次的作業放棄了原先的寫法，因為先前的做法實在是找不到適當的平行處理方式，所以這次的作業就從了解助教的 sample code 開始。Sample code 中，利用了 integer 是由 32bit 來儲存的特性，來表示候選人在於 transaction list 內出現的情況，一個 integer 去儲存 32 筆資料(所以共利用 16890 個 integer 來記錄)。此外，還利用了 parent 概念去呈現不同層的候選人的 key，搭配 recursive function 實現 depth-first search 的搜索方式。

　在實現 eclat 的部分，sample code 利用 〞 交集 : &〞 來運算每個仁 來決定新的候選人的 itemset，即是這個部分能夠利用 gpu 進行同步運算(雖然還是跑得非常慢……)。 Gpu 中，一開始設定為 16 個 block，每個 block 有 16 條 thread，

每一個 thread 會去處理一份任務：兩個候選人同 index 的 integer 去進行交集產生新的 integer 去作為新的候選人在 transaction 中出現的情況。

2. Plot the execution time of your GPU mining (y-axis: execution time) (15%):

Min_sup vs Execution time

Block_num vs Execution time

Thread_num vs Execution time
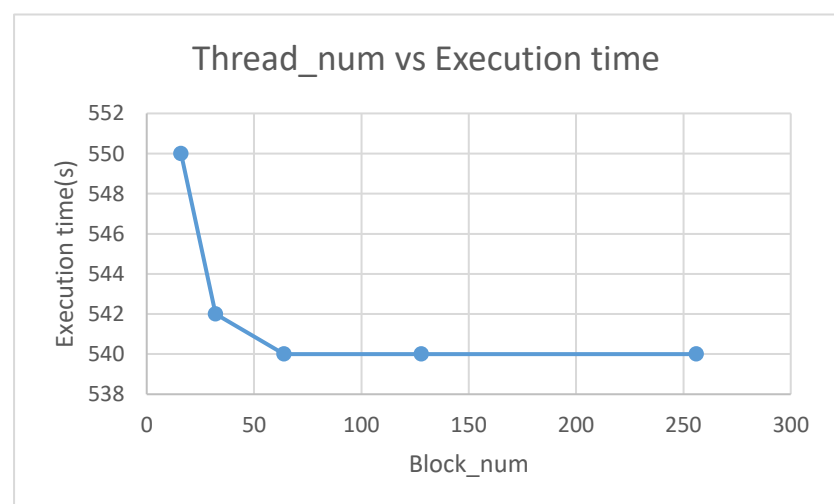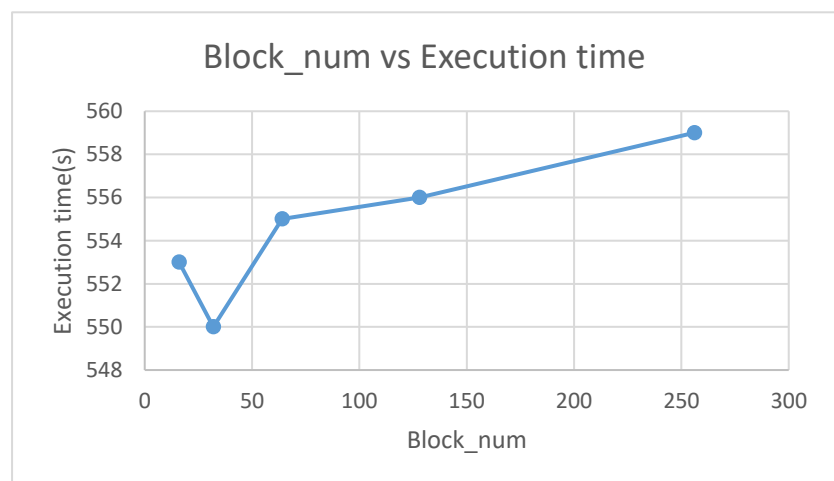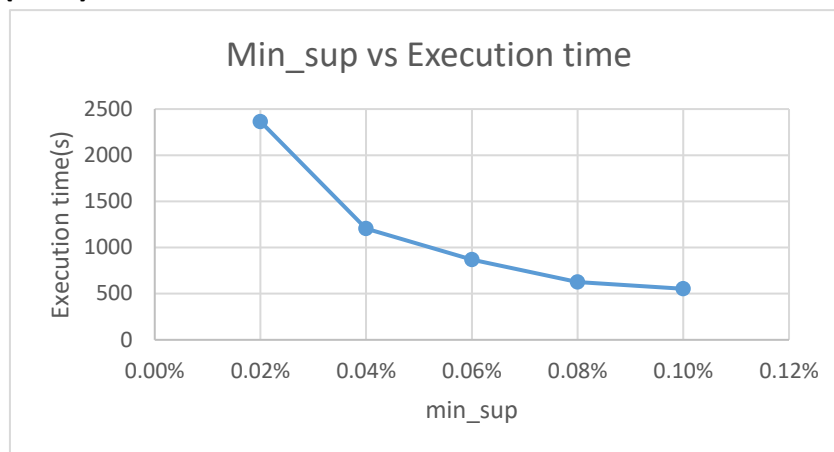
Briefly explain the reason of the different execution time:

其實實際運行時間並沒有太大的變化，推測是因為 GPU 上的執行單元(執行緒)的數量

是固定的，所以去更動 Block 和 Grid 並不會對實際運作上有多大的影響。

Screenshot your device query results, and then paste the results in your report. (25%):

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