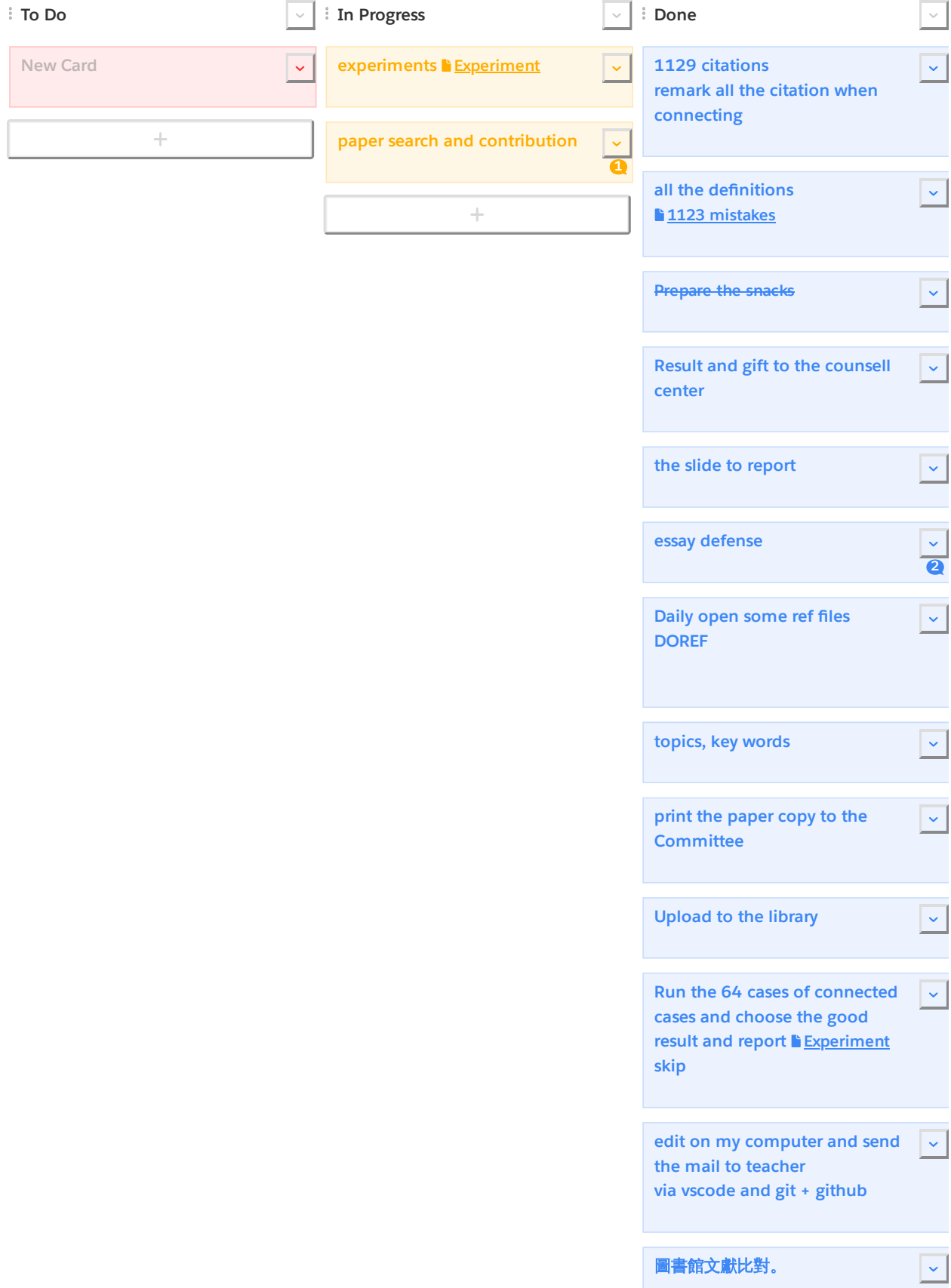


Thesis task

Project	<div><div></div></div> ⋮	Owner	<div><div></div></div> ⋮	Status	<div><div></div></div> ⋮	Deadline	<div><div></div></div> ⋮	Attachment	<div><div></div></div> ⋮
⋮ correction	<div><div></div></div>	<div><div></div></div>		<div><div></div></div> Set Status...		<div><div></div></div> Set Date...		<div><div></div></div> Choose File...	
⋮ recheck	<div><div></div></div>	<div><div></div></div>		<div><div></div></div> Set Status...		<div><div></div></div> Set Date...		<div><div></div></div> Choose File...	
⋮ New Project	<div><div></div></div>	<div><div></div></div>		<div><div></div></div> Set Status...		<div><div></div></div> Set Date...		<div><div></div></div> Choose File...	



final theory proof, make decision on reasons	▼
教授忍讓	▼
理出章法 overleaf, 大家學latex	▼
introduction	▼
abstract read and write the abstracts(^_^)	▼ 1
畫圖 點線圖畫出 可能要用座標 或是 google Cocalc – sagemath 9.1	▼
withdraw the resource papers ^ _ ^	▼
combine all the results and go to present it 1 hr	▼
send the end draft of essay0121	▼
1214 Ja Yi adopting	▼
+	

最後的最後仍是讓我捏一把冷汗，但最後的測試，通過了，還是願意為我花時間，但我還是要結束這個題目還有心情，絕望，譜半徑清楚解釋的論文從我開始，未來翁老師的學生，如果看到，翁老師自己有自己堅持的寫法，雖然很難理解，但我也，但做一個研究生，還是要盡力解釋清楚，並完備自己的理論，認知到這點的我，留下github的資料不讓自己遺憾。他真的是個很會改文字寫法的教授，但完全不知道規劃進度，從論文學習，掌握學界的主流，記得要去學文獻閱讀，收集，學會選擇正確的資料、主題，方向，判斷定理寫法的優劣，latex也不會教你，學生，學長姐之間，不知道有沒有討論，我是沒有，不知道你會不會跟我一樣慘。但要自己掌握時間進度，不要被翁老師影響，消耗信心、熱情。

諮商老師，謝謝你們花了四年在我身上，六年吧，中間休學不算，我在當兵期間也有諮商，你們顧到現實，讓我學到很多跟人溝通的技巧，也讓我努力發展運動，飲食，醫學，還能發現自己的疾病缺失，找到自己的社團，如果今後有疑似的同

學，請不吝嗇，不要心懷芥蒂，把名單給我讓我與他聊一聊，試試引導他們從亞斯的特質去確認，去知道差別，成績，工作，感情，謝謝你們給我很多人際交流的建議。雖然你們在性的觀念上，實在是和每年四五月帶團體活動的老師差異甚大，但你們有學到男女的差異，交往的重點不是看外表、好感，而是讓自己成長，發現很多黑暗，不需要被孤獨，失敗埋沒自己，應該要在身邊，家鄉，過去認識的朋友中把握機會交往，嘗試信任，一起成長。每個人都可以相愛，是句奇妙的話，會因為我們的心，有不同的意義，但沒關係，只要活下去，不要迷失就好了；還要把握時間，去享受人生，嘗試工作，在大學有機會嘗試的東西就去嘗試，讓自己滿足，享受新鮮，享受快樂，享受人生。不知不覺，我掌握了光明和黑暗的性知識，但我也找到健康有趣的方式，去進行。希望你們也可以精進，讓人期待，提供同學們，正確的觀念，讓大家快樂舒服度過大學生活，公視的影片很短，但提出許多爭議的觀點，希望你們幫助大家發展對自己身體的感覺，能訓練和活得有吸引力、有自信。每年都會有的海報闖關，可以考慮精進一下性的主題。因為它真的是人精神和愛的兩面，影響人的作息，對目標的追求，渴望，人的作息，對熬夜學習的學生，實在是必經的精神之路，不論外表如何，都會影響人，社會上還是有主流的價值觀，女孩愛漂亮，展現自己，用心吸引眾人注意，男人努力展現力量，精進，冒險，追求女性，滿足自己的慾望。

外語是我無法忘記的真愛。

Be aware that professor's work is messy, and he never remember things, and never does he organize the work such that the details are clear. OK, so I should start make the work clear and see if which part is useful and which is not. Don't mind that his instructions are vulnerable and can't be visualized maybe it's that he hold many idea in mind maybe it's me who is not ready for the whole theory. But the work is done by both of us who shall be responsible to the work and be happy. Try to see the work. One thing that we both incur in common is that we worry a lot to make the error in the moment clear but never ever think about put it off and do the work. We are good at pointing out something so that the other notice us and confusing and upset at the situation however not knowing how to review and clean the mistakes if we feel heavy we often ignore it rather than accept or put it off and move on. Sometimes that I also hold the naughty emotions and thoughts or disapprove and dissatisfied with him as if you are facing your boss or parents. What if things go on as you wish maybe your emotion problems go away as if never. 你不是在做論文只是在儲存 不滿自我滿足並沒有心力去認同自己 還蠻變態的折磨自己

以仇恨為動力 恨到不願受教 不願工作 學習 上課。很多事情都要重複兩次 還不願接受 還有疑問 還有不滿 還很累。散亂而不是簡單清楚 記不住。壓力很大 想要完成而著急隨便。論文 真實 可讀為 第一優先，超越一切的細節麻煩 試著 做出初稿 重複工作 不要預知太多，不要讓自己太累
重複讀是為了站在 評審的立場上，練出，百戰不怠的實力。

[頁面](#) 可約矩陣 講清楚 條件是需要的 還有方法的適用性

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- 122820 Weng's adoption: from 121420 article on vscode~ [012021\(-012121\)](#) 語言包容情緒，甚至是感情，或許是最好恢復的工具。專心把固執好好使用來完成這個工作。歌曲。接受現實，除了計畫之外，吃睡的程度，也可以一邊亂，一邊前進，像是一邊笑，一邊抓自己喜悲的情緒狀態，忘記自己，但要記得自己呼吸等等，得失能量的情形，最大程度的抗爭。語言想法約定，正反生死的思考。感情、情緒、男女、尖叫、自己的設定，目前的狀況。我很討厭老師打亂我的秩序、這才是我真正生氣的原因、天氣，無聊、人也是，我應該是自由的、至少在語言、環境、音樂都是。希望靠自己產生環境去、散發氣場，接受男女、年齡、立場的差異，透過漫畫、外型去讓自己喜歡自己。論文外型、計算的語言被打亂，覺得不行，忘記自己，其實這就是文化，事實上跳脫文化，是需要空間，用語言和音樂為自己創造空間。判斷和負責的方式、是接受對方的自己、和自己設定好的自己。用版本的變化去記住，適應情形、建立起溝通、和決定、喜歡討厭、享受過程的一切。喜歡遊戲、音樂，讓我有彈性。自己過意不去的良心、文化、時限、討論。：■亞斯伯格一日行為檢討
 - topic, abstract
 - k-rooted , $v' \rightarrow Qu$, some ways of expressing, thm 2.2, prf 2.2, $Q_1=(4)$, lem 3.2, rem 3.6, pf 3.6, def 3.5
 - paragraphs: submatrix notation \rightarrow before Thm 3.3, so Def 3.3 and Thm 3.4 (Rem) ; lem 3.7 \rightarrow lma 3.8 ; Rmk 3.6 \rightarrow lem 3.7 ; pf 3.7 \rightarrow pf 3.7 ; lem 3.8 \rightarrow \none
 - !! missing major definition !!
 - words before 3.3, thm 3.4 '=' iff check, def 3.6, pf 3.9 \rightarrow pf 3.8(almost nothing)
 - tikz picture Exam 3.9, Exam 3.10 ; edge direction ; form of examples
 - majorities v.s majors
 - Bibliography a.k.a. reference : spa_radius and source files:
 - 評語：很認真 87%沒錯，到93%出錯，累了時間趕了，進度抓不到；能接受的原因：他詮釋理解的角度；嚴密的定義；湊篇幅；小錯誤；對應前面的錯誤；怕抄襲卻什麼都不說。沒說明，前後修改，也沒有程序和方向的概念。
- 121420 Jya Yi adoption :
 - document
 - paragraphs: abstraction, 摘要 \rightarrow last parag. in Introduction.
 - clear definitions in the front pages
 - clear some labels: in introduction, cite{chang}
 - add $PC'Q$ equation in 'Our method'
 - small mistakes: comma, capital K,T, \$between some variables, preparation
 - Thm 3.3 proof
 - Rem 3.6 $C'Q$
 - lemma 3.7 proof, enumerate
 - 3.9 proof, () in the index of $Q^{-1}C'Q$
 - take away reference lemma after the condition
 - cancel \ and put indent of paragraph
 - 3.1 Example estimation
- thesis and opened file
 - [link](#) overleaf:
 - overtime... Runaway Argument, Emergency stop \\Pro / Pro+能把编译时间增加到4 min online problem; it takes 2 times with aux to set the crossRef_label, TRY to use bibtex instead.
 - so use matrix in equation to catch the equation; note that if one label to equation with blockarray and block then it comes to be unstable. When doing cross reference don't mess it between begin and end of

blockarray. It's ok to put `\label` after equation. Same for `pmatrix`. As for `\ref` don't put it between math mode symbol '\$', i.e, \$.... \$ [source_ref](#)

- when doing the cross reference, sometimes the aux file apply the wrong version, however vscode doesn't check on aux file and tell you the bug, **YOU BETTER KNOW IT**
- check the aux file: found the labels
- comparison : reconstruct, [syntax](#), [add](#) tree, version control; why here, to what env or cmd and sec
- structures: section, beamer, label, biblo
- thoughts between and through the structures
- mbox and hbox vs \$\$ on the text between math mode text
- [the days before thesis](#) [github](#) /paper_form
 - tree-overleaf
 - paper
 - thesis
 - ref
 - 巨集中英文 數學字型 各自設定 [link](#)
 - proof check
 - type the literature sentences and math forms separately. $$(text squeezed)$$. Use sagemath to output with python code. [sagemath my manual](#)
 - the begin and end label are bothering
 - beamer slides and macro problems , [cross reference: \(under beamer\)label ref...](#): [latex my manual](#)
 - [free in space and format...](#): [latex my manual](#)
 - 不會搭鷹架 不會畫設計圖的 翁老師?! ☹ 材料馬馬虎虎 , lemma 和 theorem 分不清 , 材料不好 ☹☹
- [latex-symbol](#)
- font file uploading “ 標楷體 ” to overleaf and github
- qed!!!!!!
- Preliminaries:
 - radius takes value between 0 to n-1; n is the number of vertex , n-1 is the average degree max
 - 1112 things correction work structure and my psyche problem
 - thesis proof check
 - the process of the front parts
 - 1123run the thesis as tex
 - conclusion of thesis
 - list of 1111 article mistakes
 - [1111 mistakes](#) font errors
 - 1116 work [1116 work](#) — abstract of the whole thesis for introduction and abstract
 - 1123 mistakes and defs organized [1123 mistakes](#)
finish the preliminaries as the first good paragraph
 - [Preliminaries_Works](#) ref of bibliograph [the ref of bibliography: base...](#): [Preliminaries_Works](#)
- our result :
 - [Result](#)

- Experiment
 - Summarize the proportion of right...
- matrix index
 - finish the matrix, try and... done
 - only the one with blue color failed, then try to modify to my case
- work standard: sagemath my manual
- some ref check in proofs
- special type: k-rooted and (k,n) -sum : k -rooted (k, n) -sum
- my final faith Always I have been worried...
- my target is to find...: Experiment
- 0317out.pdf : Theorem 3.8 : actually from C add one nonzero element 1 to the upper-right place. The indices of the entry of such '1' is j and i
- same result and the change works when...
- proof 1.6 (ii) last 2 terms of equality is another equality, line separating in source tex file, though. add “\” to separate the 2 equalities 在數學裡，證明多為隱式邏輯，反證，數學歸納，運算，收斂，定義。在資訊裡，有限多項式步驟找出可用解，不考慮惟一，所有，但定義佳解，記憶資料定義簡單，但步驟屬性，分類例外多，語法物件，特性也多。系統，伺服器，網路，圖片格式，壓縮等問題都是。美術，數學運算，也是死路。電腦或文件輸出顯示會騙我，尤其我沒有原本的線和面，重新初次看的時候。proof 1.6...: 亞斯伯格一日行為檢討 use github and put it in 工作想法 研討
- Theorem 1.7 in the proof of thm 1.3
- Theorem 1.8 C', Tmatrix not yet defined. k not specified k=3 in example
- theorem 1.
 - $C' > C$ on left n-1 columns
 - $C' > C'$ k-rooted on left n-1 columns
 - $r' > r$ k-row sum major and specify C' nth column
 - so C' is constructed to be rooted and major
- contradiction : does 正負性 和非零性 still holds if Q and row_sum is differed.
- row and column exchange affect on lambda and eigenvector elements, -1 and 0 on the paper
- abstract can emphasize on the conclusion and the features and explanation and application of the previous thesis
- 論文章節順序 link
- Introduction & abs:
 - A theories gathering from senior since professor agree on the content so I don't comment on it, although I am interested in how the theory can apply on the matrices
 - always feel that he emphasizes on how the theory can be applied and somehow it's horse in the sky.
 - And that thanks that he gave me a topic while that I'm really not in a good mental state.
 - Based on the theory and try to lease on the condition and find out the corresponding condition to the theory and adopt the theory and condition. Providing some clear proof on the computation of matrix eigenvalue.
 - strong connected graph works good main interested topic!!
 - 0,1—matrix and spectral radius of connected graph
 - 一般的歷史

- take out the history and the result and make the relative results mainly in the previous results rather than history and don't explain it twice. read and note down the relations like the study reports. Think twice how right this can be as a study project.

- 參考書

- ☑ ~~[1] R. A. Brualdi, A. J. Hoffman, On the spectral radius of $(0, 1)$ -matrices, Linear Algebra Appl. 65- (1985), 133-146.~~
- ☑ ~~[2] A. E. Brouwer, W. H. Haemers, Spectra of graphs, Springer, 2012.~~
- ☑ ~~[8] R. A. Horn, C. R. Johnson, Matrix analysis, Cambridge University Press, 1985.~~

- search on spectral radius on journals first linear algebra Applications

- ☐ TAIWANESE JOURNAL OF MATHEMATICS
- ☐ Linear Algebra and its Applications 2178
- ☐ Journal of Mathematical Analysis and Applications 992

- reform to libraries

- ☐ 格式 NCTU: .au .ti; 國家圖書館 :
- ☐ 交大典藏

- 前人結果

- 學長論文
- 老師研究 期刊
- https://ustgate0.lib.nctu.edu.tw/primo_library/資源探索系統
- google scholar
- arxiv; dx.doi <http://dx.doi.org/10>
- science direct & [sciencedirect](http://www.sciencedirect.com):
- linear algebra and its applications,
- [Journal of Combinatorial Theory, Series B](#),
- discrete math algorithm ,

- 論文重點段落

- 文獻整理軟體
- 計算數量
- 簡單介紹 2.7, 3.3, 3.6 conclusion 3.8
- a comparison condition between some random matrix and corresponding matrix with larger eigenvalue,
- another form of condition for comparison and more intuitive representation to the condition

格式 NCTU: .au .ti; 國家圖書館 : APA Style Chicago (Turabian) Style MLA Style CNS-13611 Style CSE Style RIS format(EndNote、RefWorks...) 交大研發
教授 傅恆霖 張耀祖 傅東山 譚必信 翁志文

2周前申請 論文比對 給指導教授 口試委員 審定書 評分表

Thesis-reference

- ☒ ~~Spectral Radius of a Bipartite Graph~~ 鄭硯仁 博士論文—國立交通大學應用數學系所 2018
- ☐ 圖的譜半徑與度數列之研究 = Spectral radius and degree sequence of a graph 劉家安 博士論文-
 - ☐ Spectral radius of bipartite graphs, [journal_paper](#)
 - ☐ f
 - ☐ **[3] Yingying Chen, Huiqiu Lin, Jinlong Shu, Sharp upper bounds on the distance spectral radius of a graph, Linear Algebra Appl. 439 (2013), 2659-2666.**
 - ☐ [4] X. Duan, B. Zhou, Sharp bounds on the spectral radius of a nonnegative matrix, Linear Algebra Appl. 439 (2013), 2961-2970.
 - ☐ [5] M. N. Ellingham, X. Zha, The Spectral Radius of Graphs on Surfaces, J. Combin. Theory Ser. B 78 (2000), 45-56.
 - ☐ [9] Y.-P. Huang and C.-W. Weng, Spectral radius and average 2-degree sequence of a graph, Discrete Math. Algorithms Appl. 6(2) (2014), 1450029.
 - ☐ [10] C.-A. Liu and C.-W. Weng, Spectral radius and degree sequence of a graph, Linear Algebra Appl. 438 (2013), 3511-3515.
 - ☐ [11] C.-A. Liu and C.-W. Weng, Spectral radius of bipartite graphs, Linear Algebra Appl. 474 (2015), 30-43.
 - ☐ [12] R. P. Stanley, A bound on the spectral radius of graphs with e edges, Linear Algebra Appl. 87 (1987), 267-269.
 - ☐ [13] J. Shu and Y. Wu, Sharp upper bounds on the spectral radius of graphs, Linear Algebra Appl. 377 (2004), 241-248.
- J. Shu and Y. Wu, Sharp upper bounds on the spectral radius of graphs, Linear Algebra Appl. 377 (2004), 241-248.
- ☐ [6] Yuan Hong, Upper bounds of the spectral radius of graphs in terms of genus, J. Combin. Theory Ser. B 74 (1998), 153-159.
- ☐ [7] Yuan Hong, Jin-Long Shu, Kunfu Fang, A sharp upper bound of the spectral radius of graphs, J. Combin. Theory Ser. B 81 (2001), 177-183.
- ☐ 方儀君 Yi June Fong 取樣算子之 Perron-Frobenius 定理及其譜半徑公式的誤差估計 Perron-Frobenius theorem for sampling operator and the error estimate for its spectral radius formula 何宗軒, Mark C. Ho 國立中山大學應用數學系碩士
- ☐ [12] Y.-F. Chen, H.-L. Fu, I.-J. Kim, E. Stehr and B. Watts, On the largest eigenvalues of bipartite graphs which are nearly complete, Linear Algebra Appl. 432 (2010) 606-614.
- ☐ some definitions, some theorems to let others know what you are doing.

- 主定理描述
 - 描述點 → 高至芃 溫佳怡
- **abs**
 - temp
- bibliography
 - 0306_p.3 perron-Frobenius theorem : ([2, Theorem 2.2.1], [8, Corollary 8.1.29, Theorem 8.3.2]). in
els_matrix_realization_Chang.pdf c:cor 8.1.29 → $\rho(A) < \beta$ thm8.3.2 → $\rho(A) \geq \alpha$ thm
2.2.1 → 6 lemmas \leq and \geq

present: introduction preliminaries our_results biblograph line_graph

formal: front_and_abst

focus on the tag error [manual](#), circle them out and then the work is there. **Indent and spacing** Text read 1 hour
aux file needed [ref](#)!! label [↗](#) `\begin{equation} Q=I+E_{\{kn\}}=\begin{pmatrix} \label{Q1} 1 & & & & 0 \\ & 1 & & & & \\ & & \ddots & & & 1 \\ & & & & & \\ & & & & 1 & \\ 0 & & & & & 1 \end{pmatrix}` &...

```
\begin{equation}
  Q=I+E_{\{kn\}}=\begin{pmatrix}
    \label{Q1}
    1 & & & & 0 \\
    & 1 & & & \\
    & & \ddots & & 1 \\
    & & & & \\
    & & & & 1 & \\
    0 & & & & & 1
  \end{pmatrix}
\end{equation}
```

```
10 labels
\label{pre_thm}
\label{Q1}
\label{e3}
\label{e1}
\label{e2}
\label{v_rooted}
\label{thm_main}
\label{m_rooted}
\label{lma_m_rooted}
\label{l_diag}
```

```
15 ref
```

```
\ref{e1}
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```
\ref{e2}
\ref{e3}
\ref{e2}
```

```
\ref{pre_thm}
```

```
\ref{Q1}
```

```
\ref{pre_thm}
```

```

\ref{pre_thm}
\ref{pre_thm}
\ref{pre_thm}
\ref{e3}

\ref{m_rooted}

\ref{v_rooted}

\ref{v_rooted}
\ref{l_diag}

```

Introduction result

Abstract: 摘要

多慮 文字敏感 每次都重來 很花時間； 沒有評價 就是最重的評價

- formats : font italic bold \$
- definitions needed some text and info, specifying the variables and formula
- details annoying, topic name, title of slide vs thesis
- structures: graph, abstract, introduction
- errors: typing, syntax of latex,
- some files of references
- instructions: read it slow fucking admiring it.
- hidden details between all the formulas and this can formulate the abstract and introduction. This is how readers remember the theory
- meeting : wrap up a piece of work and print it out to the professor

☒ ~~finish the matrix, try and error~~

☐ Summarize the proportion of right and wrong

Always I have been worried on the realistic of the theorem but never find out an objective test for it to settle my heart. Even I got some faint ideas and concepts but until now I try to love myself and forgive and embrace the professor, the fact and I. I become less care on the frustration.

教授錯

- ~~題論文不看論文不指出重點~~
- ~~0719張郁雯email~~
- ~~避重就輕~~
- ~~模擬兩可新說法 叫我模仿 說我沒有東西~~
- ~~兩方僵持不下 都是虛 我又爭勝~~

Some Links

交大論文索引 陪你作研究 <https://news.lib.nctu.edu.tw/category/researches/> NTU

☑ ~~Google Scholar~~與Web of Science

☑ 為何IEEE、ELSEVIER

數學書籍 5樓 廁所角落 第三櫃 靠工五角落

電梯外 第四櫃前排

```
\topmargin 0pt

\topmargin=-1.5cm
\oddsidemargin=0.7cm
\textheight=23.5cm
\textwidth=15cm
\setlength{\baselineskip}{24pt}
\renewcommand{\baselinestretch}{1.5} %行距


\usepackage{fontspec} %加這個就可以設定字體
\usepackage{xeCJK} %讓中英文字體分開設置
%\usepackage{times}
\usepackage{amssymb}
\usepackage{amsmath}
\usepackage{amsthm}
\usepackage{ulem}
\usepackage{amsfonts}
\usepackage{mathrsfs}
\usepackage{tabularx,array}
\usepackage{pgf,tikz}
\usepackage{blkarray} %line 80-92 Q formula matrix index
%\usepackage{colortbl}


\usetikzlibrary{arrows}
\setCJKmainfont{標楷體} %設定中文為系統上的字型，而英文不去更動，使用原TeX字型
\XeTeXlinebreaklocale "zh" %這兩行一定要加，中文才能自動換行
\XeTeXlinebreakskip = 0pt plus1pt %這兩行一定要加，中文才能自動換行
\title{Combinatorial Identities from Lagrange's Interpolation Polynomial}
\author{Student: Yen-Jung Huang ~~~~~~Advisor: Chih-Wen Weng}
\date{} %不要日期


\def\UrlFont{\rm}


\theoremstyle{plain}
\newtheorem{thm}{Theorem}[chapter]
\newtheorem{cor}[thm]{Corollary}
```

```
\newtheorem{lem}[thm]{Lemma}
\newtheorem{prop}[thm]{Proposition}
\newtheorem{remark}[thm]{Remark}
\newtheorem{eg}[thm]{Example}
\newtheorem{conj}[thm]{Conjecture}
```

```
\theoremstyle{definition}
\newtheorem{defn}[thm]{Definition}
\newtheorem{ex}[thm]{Exercise}
\newtheorem{prob}[thm]{Problem}
\newtheorem{exam}[thm]{Example}
\newtheorem{nota}[thm]{Notation}
\newtheorem{rem}[thm]{Remark}
\newtheorem{ques}[thm]{Question}
\newtheorem{pof}[thm]{Proof.}
```

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Linear Algebra and its Applications (6)
Journal of Mathematical Analysis and Applications (4)

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