

# Final Words

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# Before the ~~Midterm~~

- Basics of DSA/C++ ✓
- Arrays: dense, sparse ↙ 20-
- Linked Lists: singly, circular, doubly
- Analysis Tools
- Stacks, Queues, Dequeues: expression parsing
- List/Iterator → maze
- Trees: general, binary, traversal  
— hierarchical

# After the Midterm

"array"  
heap sort

- Heap
- Hashing: chaining, probing, dynamic
- Skip Lists
- Search Trees: BST, AVL, 2-3-4, RB
- Sorting: bubble, selection, insertion, shell, merge, heap, quick

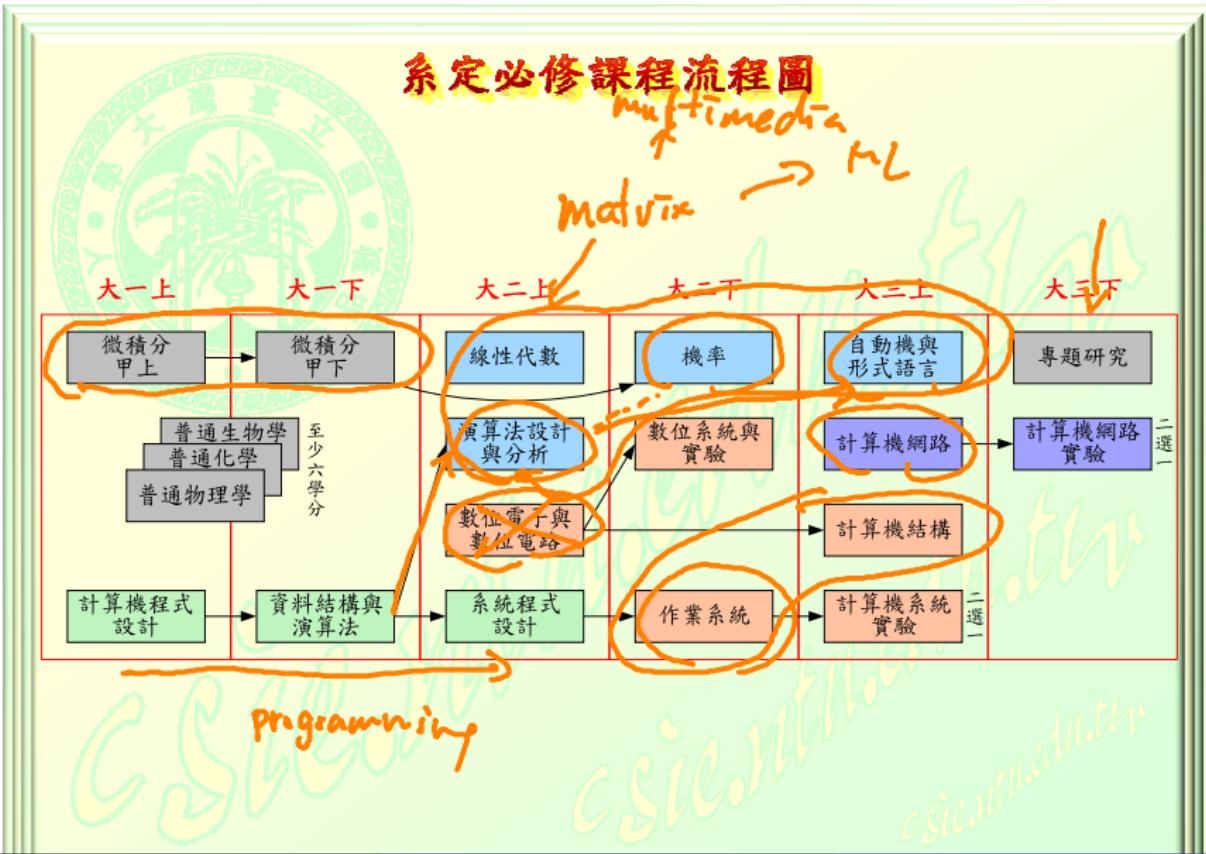
[BST], counting, radix

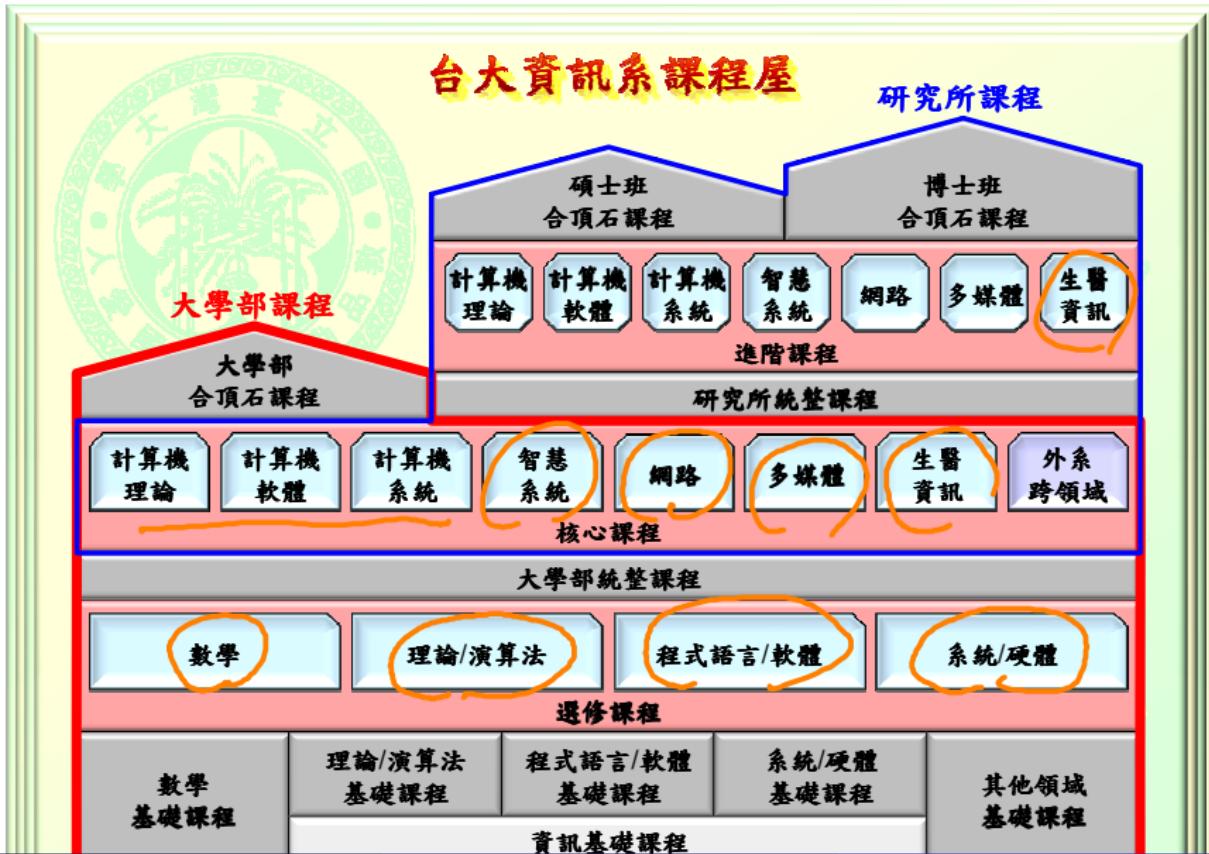
BST

linked list

array

sparse array  
merge





## How to Be an Excellent Programmer?

ability / characteristic	related courses
sincere, communication, work hard, ...	
domain knowledge	
language feature <ul style="list-style-type: none"> <li>• workable program</li> <li>• bug-free program e.g., C# property, DateTime.Now</li> <li>• most suitable feature e.g., if vs. switch statements</li> </ul>	<p style="color: orange; font-size: 2em;">platform</p> Programming Language (Compiler) (Operating System) (Computer Architecture)
program behavior	Data Structure Algorithm
API, library <ul style="list-style-type: none"> <li>• simple API e.g., Date, Calendar, GregorianCalendar</li> <li>• complex API, with design concept e.g., swing's event/listener, RMI</li> </ul>	
experience <ul style="list-style-type: none"> <li>• write program by yourself</li> <li>• trace other's real &amp; good program</li> </ul>	(Data Structure) (Algorithm)

# Most Important of All: Never Stop Learning!

<http://www.books.com.tw/exep/prod/booksfile.php?item=0010464414>

都生活在大學裡的腳步腳印們。尤其是今後想得 IT 這一行的  
— 諸如 小鳥、來自卡爾河院校、或財團、或政府；或男生、或女生  
在失望中追求希望 — 在滿足中輕飄飛向  
  
被認取愛的腳步腳印們  
本科不滿意、考研少嘗試；學習到敗退、折磨心中有慟  
畢業不等於失業、自己給自己作主



周江立等著 楊學誠編譯

**THANK YOU!!**