

培正電腦奧林匹克代表隊

OUR TWO RUNS FOR HKOI 兩次由零開始參加HKOI

1997 – 2003, 2004 – 2023

Before HKOI ...

- School based training with 30 sample tasks (**SCSQ-30**)
- **Phrase 1 TFT** picking 20 or less training team candidates
- **Phrase 2 TFT** selecting IOI delegates
- Students from different schools are selected in TFT
- IOI performance of HK team are quite random



1996

IOI 1996	25 July - 2 August 1996	Veszprem, Hungary
Chan Hsi	Tsuen Wan Government Secondary School	
Ho Yuen Ki	Po Leung Kuk Vicwood K. T. Chong Sixth Form College	
Poon Wing Chi	La Salle College	
Wan Yung Chun	Sing Yin Secondary School	Bronze Medal

1995

IOI 1995	26 June - 3 July 1995	Eindhoven, The Netherlands
Chan Wing Cheong	Kwun Tong Government Secondary School	Bronze Medal
Kwok Chi Leong	Kwun Tong Government Secondary School	Bronze Medal
Wan Yung Chun	Sing Yin Secondary School	Silver Medal
Wong Hoi Wai	St. Joseph's College	

1994

IOI 1994	3-10 July 1994	Haninge, Sweden
Chan Ho Yan	Maryknoll Fathers' School	
Ng Shek Fung	Po Leung Kuk Vicwood K. T. Chong Sixth Form College	
Tse Hiu Ming	Sheng Kung Hui Holy Trinity Church Secondary School	
Yau Ka Fai	Tsuen Wan Government Secondary School	Bronze Medal

1993

IOI 1993	16-25 October 1993	Mendoza, Argentina
Au Yeung Kwok Leung	Shun Tak Fraternal Association Tam Pak Yu College	
Chan Ying Kit	Diocesan Boys' School	
Cheung Wai Chung	St. Joseph's College	
Yau Ka Fai	Tsuen Wan Government Secondary School	Bronze Medal

1992

IOI 1992	11-21 July 1992	Bonn, Germany
Chan Hing Lun	Queen's College	Silver Medal
Fung Ping Fu	CCC Ming Kei College	
Yip Wing Kong	Queen's College	


1997 to 2004: face-to-face school training

- School based training with 30 sample tasks (**SCSQ-30**)
- **Phrase 1 TFT** turns to **HKOI final event**
- more candidates are selected as HK training team
- longer HKOI training program (from Jan to IOI)
- **Phrase 2 TFT remains** to select IOI and NOI delegates
- 1999 **HKOI heat event** turns to senior/junior **written exams**

1999		
IOI 1999	9-16 October 1999	Antalya-Belek, Turkey
Ho Tsz Hang	Pui Ching Middle School	Silver Medal
Lau Wai Keung	Po Leung Kuk 1983 Board of Directors' College	
Tam Kin Fai	Pui Ching Middle School	Bronze Medal
Tse Chi Yung	Diocesan Boys' School	Silver Medal
NOI 1999	16-20 July 1999	Beijing
Lau Wai Keung	Po Leung Kuk 1983 Board of Directors' College	
Ng Sum Yee	St Paul's Secondary School	
Tse Chi Yung	Diocesan Boys' School	Third Prize

1998		
IOI 1998	5-12 September 1998	Setubal, Portugal
Choi Yau Chi	La Salle College	
Koo Chiu Yuen	La Salle College	Bronze Medal
Tam Kin Fai	Pui Ching Middle School	
Yan On Sheung	Sing Yin Secondary School	
NOI 1998	August 1998	Hangzhou, Zhejiang
Lam Chor Man	St Paul's Secondary School	
Koo Chiu Yuen	La Salle College	Third Prize
Yan On Sheung	Sing Yin Secondary School	

1997		
IOI 1997	30 November - 7 December 1997	Cape Town, South Africa
Ching Wing On	TWGHs Wong Fut Nam College	
Lau Tsz Kit	La Salle College	
Leung Chun Ho	Sing Yin Secondary School	
Poon Wing Chi	La Salle College	Gold Medal
NOI 1997	August 1997	Hong Kong
Choi Yau Chi	La Salle College	Second Prize
Ching Wing On	TWGHs Wong Fut Nam College	Third Prize
Cheng Man Sim	St. Paul's Secondary School	Third Prize
Ho Chiu Wing Cristy	Diocesan Girls' School	
Law Wing Hei	Tuen Mun Catholic Secondary School	Third Prize
Lau Tsz Kit	La Salle College	Third Prize



香港電腦奧林匹克競賽
Hong Kong Olympiad in Informatics

HKOI
Compete
Learn
Team
SDIC
Primary

Past Problems

Heat Event

Year	Senior Group			Junior Group		
	English	Chinese	Suggested Answer	English	Chinese	Suggested Answer
2000	English	Chinese	Suggested Answer	English	Chinese	Suggested Answer
1999	English	Chinese	Suggested Answer	English	Chinese	Suggested Answer
1998	English	Chinese	Test Data			
1997	English	Chinese				

HKOI junior heat = DSE paper 2

Competition Syllabus

Note: This syllabus serves as a guide only. If deemed appropriate, questions may involve contents that are out of scope.

Junior Group

- Computer literacy / General STEM knowledge
- Mathematics
 - Euclidean distance (Pythagoras' theorem)
 - Discrete mathematics (primes, permutation and combination, modular arithmetic)
- Boolean algebra
- Variables, statements, expressions, and functions
- Basic data types (integer, floating points, boolean, character, string)
- Control structures
 - Conditional (if-then-else, switch-case)
 - Iteration (for-loop, while-loop, do-while loop)
- String processing
- Array and array processing (up to 2 dimensions)
 - Linear search
 - Binary search
 - Comparison-based sorting (bubble, selection, insertion)
 - Quicksort, Merge Sort
 - Counting sort
- Errors and debugging
- Concepts and applications of data structures (stack, queue and linked list)
 - Built-in libraries of the relevant data structures

Senior Group

Contents of Junior Group, plus:

- Advanced array processing
- Implementation of data structures (stack, queue and linked list)
- Recursion
- Exhaustion and optimization
- Divide and conquer
- Graph theory (vertices, edges, tree)
- Depth-first search
- Algorithm analysis (time and memory complexity)

18. What is the output of the following program? 以下程序的輸出是什麼？

C++

```
int main() {
    int a[5] = {3, 1, 9, 2, 4};
    stack<int> x;
    queue<int> y;
    for (int i = 0; i < 5; ++i) {
        x.push(a[i]);
        y.push(a[i]);
    }
    while (!x.empty() && !y.empty()) {
        if (x.top() > y.front()) {
            x.pop();
        } else {
            y.pop();
        }
    }
    cout << x.size() << ' ' << y.size();
}
```

- A. 0 2
- B. 0 4
- C. 2 0
- D. 3 0

答題紙填寫方法及常犯錯誤

多項選擇題

– 將所選之答案對應的空格填滿



填充題

– 如空格有再分為小格，則上每個小格只可填上一個字符，答案長度不得多於該題提供的小格數目。

– 字體須端正清楚，無法辨別之答案當錯誤論。

Correct Answer 正確答案: 16168

Correct Answer 正確答案: 16



True A2 true A3 false Correct Answer 正確答案

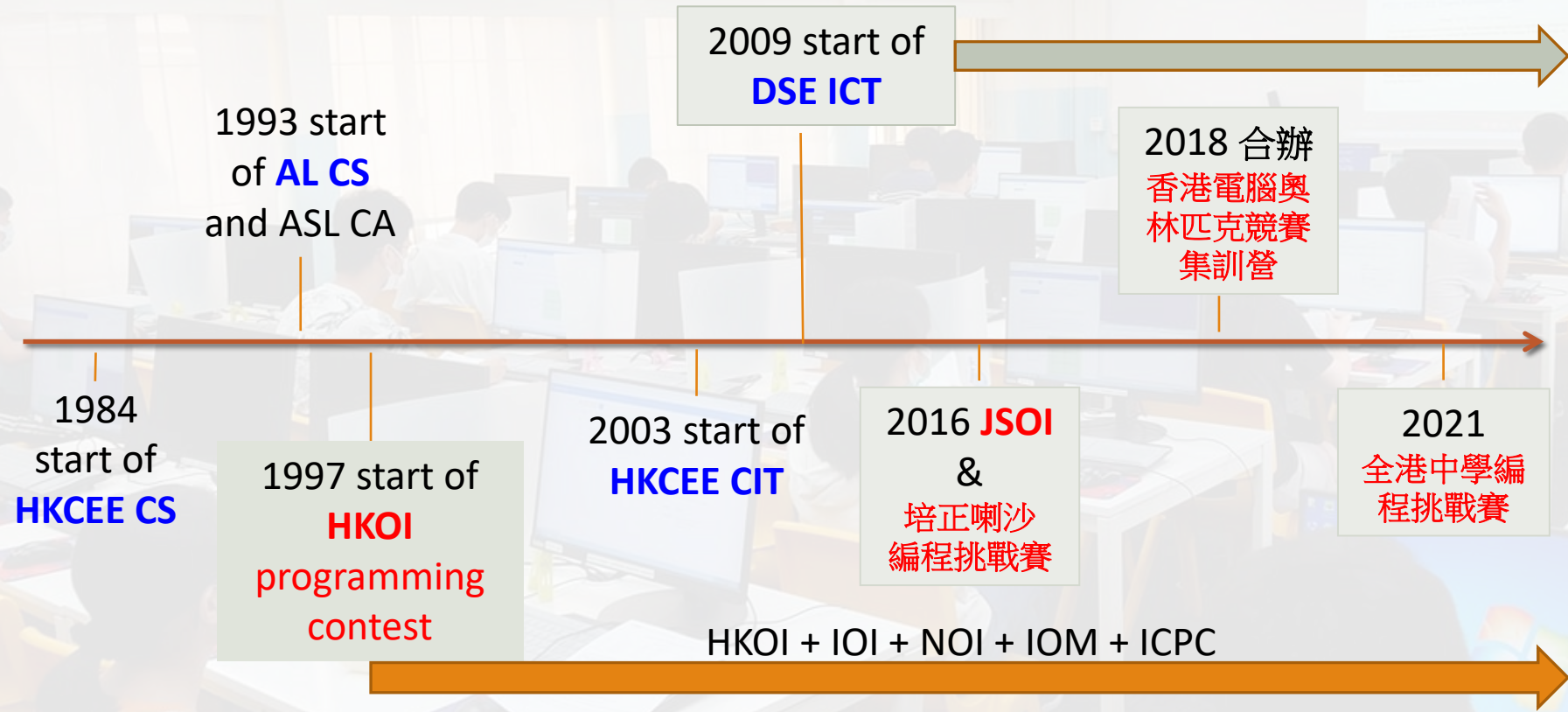
True A2 True A3 False Wrong spelling 拼寫錯誤

DSE 都一樣考呢啲啦!

Correct Answer 正確答案

Wrong comparison operator 錯誤的比較運算子

HKOI x HKDSE-ICT



Growth Mindset 一年也是太長的時代

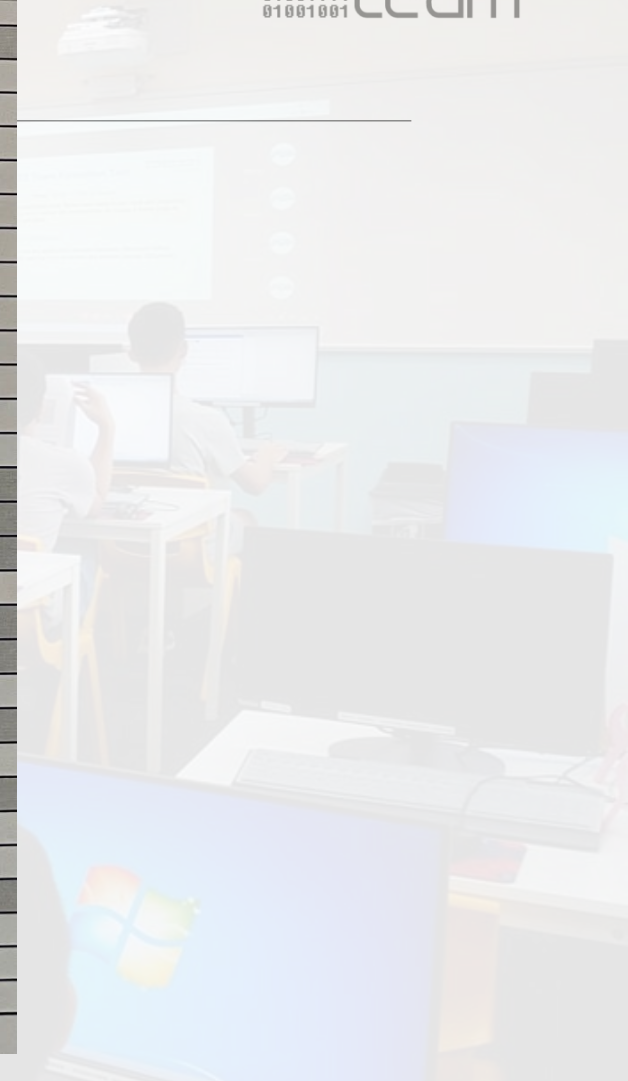
HKOI	冠軍	亞軍	季軍
1997	喇沙書院	東華三院黃笏南中學	香港培正中學
1998	香港培正中學	喇沙書院	聖言中學
1999	香港培正中學	喇沙書院	保良局董玉娣中學
2000	喇沙書院	東華三院甲寅年總理中學	荃灣公立何傳耀紀念中學
2001	東華三院甲寅年總理中學	拔萃男書院	保良局董玉娣中學
2002	拔萃男書院	東華三院甲寅年總理中學	喇沙書院 香港培正中學
2003	喇沙書院	皇仁書院 拔萃男書院 保良局董玉娣中學	---
2004	喇沙書院	東華三院甲寅年總理中學	拔萃男書院

2002 Pui Ching Middle School, HKOI Competition Record

Categories	Form	Tel	Student	Heat	Final	Medal	Score	
Senior	7	[REDACTED]	黃志衡 ✓	✓	✓	Br	1	
Senior	7		湯啓揚 ✓	✓	X	X		
Senior	7		張昕 ✓	✓	✓	✓		
Senior	6		李震宇 ✓	✓	X	✓		
Senior	6		陳尙熾 ✓	✓	X	X		
Senior	6		Yan Yee Shing ✓	✓	X	X		
Senior	5F ✓		李彥安	✓	✓	Br	1	
Junior	5		黃成然	✓	✓	Si	2	NOI 2002
Junior	4F ✓		鄒肇徽	✓	✓	Si	2	
Junior	4F ✓		何浩網	✓	✓	✓		
Junior	4F ✓		陳智浩	✓	✓	✓		
Junior	4F ✓		謝婷	✓	✓	Br	1	SEARCC 2002
Junior	4F ✓		馬欣怡	✓	✓	Br	1	
Junior	3A ✓		郭文德	✓	X	X		
Junior	3		周子揚	✓	X	X		
							f=8 (3rd)	

2003 Pui Ching Middle School, HKOI Competition Record

Categories	Form	Tel	Email	DoB	Student	19-Oct	25-Oct	25-Oct	8-Nov	15-Nov	22-Nov	(TFT)			Medal	Score
												training	Heat	Final		
Junior	3A03				陳葯	Yes	Yes	Yes		No	✓		Yes	X		
Junior	3A41				黃嘉豪	No	No	No	No	No			X	X		
Junior	4A22				郭文德	No	Yes	No	No	No			X	X		
Junior	4F39				黃承安	No	Yes	Yes					X	X		
Junior	4F27				梁永冲	No	Yes						X	X		
Junior	4D10				周子揚	No	Yes	Yes		Yes	✓		Yes	X		
Junior	4F17				劉銘傑	No				Yes	✓		X	X		
Junior	4F27				羅啓峰	Yes	Yes	Yes		Yes	✓		X	X		
Junior	4F02				陳銘欣	No	Yes	Yes		Yes	✓		X	X		
Junior	3A22				李振宏	Yes	Yes	Yes		Yes	✓		Yes	✓	silver	2
Junior	4F08				方效俊	No	Yes	Yes		No	✓		Yes	X		
Junior	5F10				周穎儀	Yes	Yes			Yes	✓		Yes	X		
Junior	5F01				陳智浩	Yes	Yes			No	✓		Yes	X		
Junior	5F09				鄒肇徽	Yes	Yes			Yes	✓		Yes	✓	bronze	1
Junior	5F17				何浩網	Yes	Yes			Yes	✓		Yes	✓	bronze	1
Senior	5F40				胡世奇		No						X	X		
Senior	5F34				謝婷		Yes				✓		Yes	X		
Senior	5F28				馬欣怡		Yes				✓		Yes	X		
Senior	6C29				胡兆軒		Yes				✓		Yes	X		
Senior	6C19				李彥安		Yes				✓		Yes	✓	silver	2
Senior	6C10				劉樹良		No				✓		Yes	✓	silver	2
Senior	6C24				岑耀衡		Yes				✓		Yes	✓	bronze	1
Senior	6C06				蔡浩文		No						X	X		
Senior	7C22				吳樹熾		Yes						X	X		
Senior	7C14				李震宇		Yes				✓		Yes	✓	bronze	1
Senior	7C02				陳尚熾		Yes						X	X		
												15	7	Grand Total	10	
														Grand School Prize	X	



2005 after: PCOI online judge + HKOI training


- **LSC** and **PCMS** started their **online judge** and training program
- school mission : basic **programming skills** and **written exam skills**

PCOI Online Judge Tasks Quests Contests Status More ▾
12:16:56 wtchung ▾

PCOI TFT Preparation

Problem solving practices & basic algorithms useful for PCOI TFT.

Introduction to OI - Time Complexity	30
Introduction to OI - Implementation, Simulation	45
Sorting Algorithms	35
Optimization - Partial Sum, Differences Array	40
Optimization - Two pointers	30
Optimization - Binary Search	25
Misc Optimization Problems	30



Learning Motivation 引|發動機

PCOI Online Judge Tasks Quests Contests Status More ▾ 14:54:15 wtchung ▾

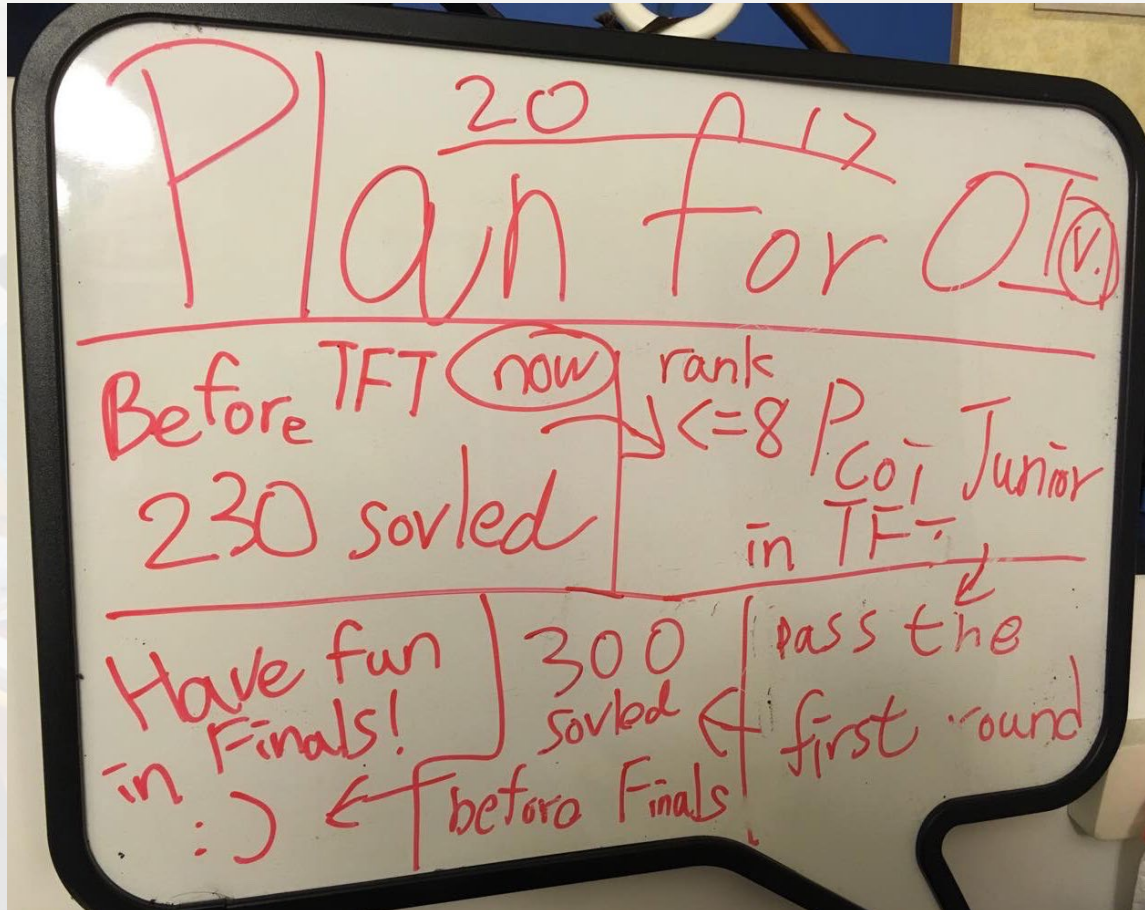
User	Total	1010	1011	1009	1016	1013	1085	1021	1022	1027	1043	1049	1012	1058
LMH2	13	2011-08-13 12:50:53	2008-05-30 19:36:54	2008-05-23 18:07:46	2010-07-16 12:05:58	2008-05-30 19:48:21	2010-08-16 13:59:17	2008-05-30 19:43:49	2009-08-27 22:39:51	2010-08-16 13:30:04	2010-08-16 13:31:20	2011-08-21 15:08:42	2010-07-30 13:47:11	2010-08-16 13:40:41
pig	12	2011-08-21 11:53:58	2009-02-17 18:46:33	2009-03-13 22:26:44	2009-05-30 13:33:29	2009-04-23 18:47:24	2009-02-17 19:16:48	2009-02-10 18:47:15	2009-03-13 21:36:10	2009-03-14 23:31:46		2011-08-21 11:55:44	2009-04-14 12:51:22	2009-05-25 20:35:51
kiking	10		2007-07-30 09:43:13	2007-07-28 18:53:17	2007-12-17 19:04:44	2007-08-06 16:48:21	2007-07-30 11:12:37	2007-12-09 21:06:55	2007-10-20 23:35:47	2007-08-07 10:46:21			2008-06-24 20:50:23	2008-05-24 21:23:32
mt	10		2010-10-18 17:32:01	2010-10-18 17:18:45	2010-07-16 11:23:46	2010-10-18 17:32:25	2010-10-18 17:52:54	2010-07-16 13:12:28	2010-10-18 17:48:08	2010-10-18 17:49:26	2010-11-11 20:46:44			2010-11-24 18:23:31
perry	10	2011-08-10 12:31:13	2011-08-10 12:33:14	2011-02-21 22:45:14	2011-08-10 12:35:14		2011-08-10 12:44:42	2011-10-02 15:51:55	2011-02-17 16:33:33	2011-08-10 12:40:03		2011-10-02 15:54:52		2012-11-25 23:27:44
stanley115	10		2009-05-04 21:22:53	2008-08-18 11:58:48	2009-06-23 19:03:49	2009-04-24 15:53:56	2009-04-07 19:21:43	2009-09-08 09:13:32	2009-06-20 18:15:32	2009-05-02 20:06:36			2009-06-20 18:14:19	2009-07-26 16:31:31
yikwaipan	10		2010-07-16 10:01:49	2010-06-15 18:08:41	2010-07-16 09:51:02	2010-07-16 10:02:23	2010-07-19 15:56:50	2010-07-16 10:19:09	2010-07-16 10:55:00	2010-07-16 10:44:42			2010-07-16 10:02:06	2010-07-20 17:11:39
SamuelCheng	9	2012-02-17 16:12:11	2010-10-19 21:36:31	2010-10-19 21:29:22	2010-07-16 17:11:17	2010-10-19 22:38:37	2010-10-20 06:11:56	2010-10-19 22:57:42	2010-08-09 11:09:05	2010-10-19 23:02:57				

PCOI Online Judge Tasks Quests Contests Status More ▾ 14:57:11 wtchung ▾

Group [PCOI_Legends](#) +

Rank	User	Solves	EXP
1	benson1029 IOI medalist	723	1180
2	yaufung Jane Street internship	713	1100
3	ethening IOI medalist	707	970
4	chengheichit Jane Street internship	682	950
5	AngusWong NOI medalist	632	1295
6	kobebryan9 Morgan Stanley internship	628	810
7	percywtc Jane Street Capital	529	680
8	jeremy624 Google software engineer	528	610
9	WongChun1234 IOI medalist	516	1310
10	lamkinlong Cisco software engineer	511	730
11	lanWong ambergroup.io engineer	482	580
12	Angus_Yeung NOI medalist	385	1130
13	homura Jane Street Capital	377	545

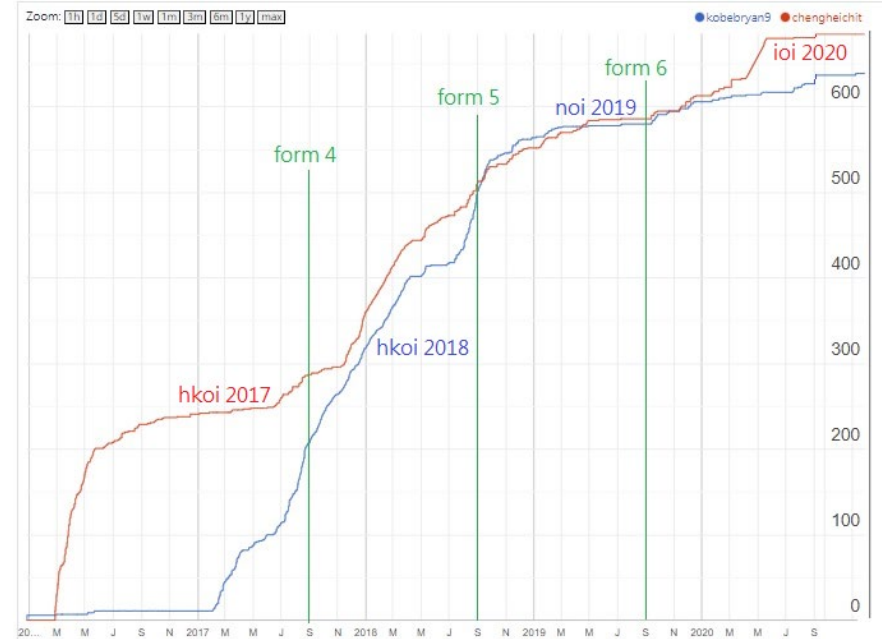
Flow 心流



kobebryan9

Solves: 640
 EXP: 1155
 Member since 2015-12-27 16:55:29

Pets Submissions Solved Map Solved Timechart OI Checklist



“Every student has a dream”

❖ S5黃進 S4盧沂鋒 於八月下旬至九月上旬
赴 匈牙利塞格德
參與國際電腦奧林匹克競賽 2023



IOI 2023
HUNGARY • SZEGED

❖ S6黃文禮 S4楊承羲 在暑假期間赴國內
參與全國青少年信息學奧林匹克競賽 2023



NOI 2023 China Chengdu, Sichuan

S4 楊承羲 bronze

S6 黃文禮 bronze



IOI 2023 Szeged, Hungary

S5 黃 進 silver
S6 盧沂鋒 silver



“Every student has a dream”

	2013年度	2014年度	2015年度	2016年度	2017年度	2018年度	2019年度	2020年度	2021年度	2022年度
全國青少年信息學奧林匹克聯賽 (獎牌)				11/32	14/33	14/37	疫情取消	4/14	6/34	7/19
香港電腦奧林匹克競賽集訓營 (參加人數)					14/30	10/30	疫情取消	疫情取消	疫情取消	9/32
國際電腦奧林匹克競賽 IOI (港隊人數)	3	2	4	3	1	3	3	1	2	2
全國青少年信息學奧林匹克競賽 NOI (港隊人數)	1	3	1	2	2	3	3	1	1	2
國際大都會奧林匹克 IOM (港隊人數)				2	1	1	1	1	沒有派隊	沒有派隊

How to start your own RUN?

HHOI 香港電腦奧林匹克競賽
 Hong Kong Olympiad in Informatics

HKOI Compete Learn Team SDIC Primary

Past Problems

Heat Event

Year	Senior Group			Junior Group		
2022/23	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2021/22	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2020/21	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2019/20	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2018/19	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2017/18	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2016/17	English & Chinese	Ans Sheet	Official Solution	English & Chinese	Ans Sheet	
2015/16	English Chinese	Ans Sheet	Official Solution	English Chinese	Ans Sheet	
2014/15	English Chinese	Ans Sheet	Official Solution	English Chinese	Ans Sheet	
2014	English Chinese	Ans Sheet	Official Solution	English Chinese	Ans Sheet	
2013	English Chinese	Ans Sheet	Official Solution	English Chinese	Ans Sheet	
2012	English Chinese		Suggested Answer	English Chinese		
2011	English Chinese		Suggested Answer	English Chinese		
2010	English Chinese		Suggested Answer	English Chinese		



HHOI 香港電腦奧林匹克競賽
 Hong Kong Olympiad in Informatics

HKOI Compete Learn Team SDIC Primary

Online Judge

HKOI Online Judge (<https://judge.hkoi.org/>) is originally the training platform for the HKOI Training Team. Students can submit programs to improve their programming and problem solving skills. To further promote computational thinking and STEM education, the Online Judge is now open to secondary schools in Hong Kong.

[ENTER HKOI ONLINE JUDGE](#)

What is an Online Judge?

Online Judge is a system to perform black-box testing of programs. To solve a problem, the user will design an algorithm and implement the solution by writing a program. The program will then be compiled and tested using a number of test cases (usually hidden). For each input, the program must output the correct answer within some time and memory constraints. (e.g. in 1 second using not more than 256 MB RAM)

[See a sample task with solution and test cases](#)

```

    graph LR
      A[Gathering the Requirements] --> B[Algorithm Design]
      B --> C[Implementation / Coding]
      C --> D[Testing / Debugging]
      D --> B
  
```

Features

Language Support

- C++, Python, Pascal, Java
- C, Haskell, Ocaml, Blockly
- and many more

Problem Set

- More than 900 tasks of various difficulty
- 55 DSE Programming exercises
- Coming Soon: DSE Database SQL exercises
- Past problems of HKOI and other competitions

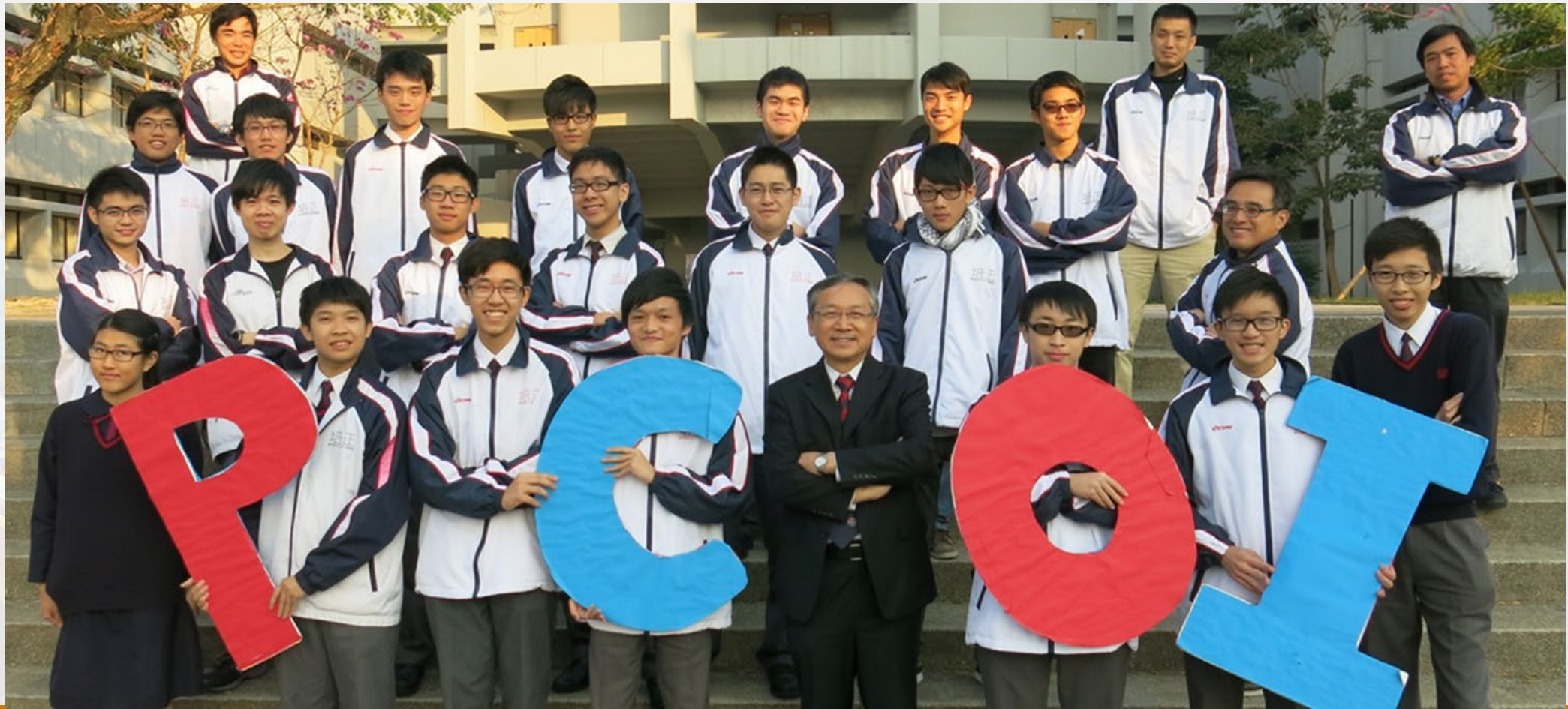
Built-in Online IDE

- Code, compile and run
- Cloud storage
- Mobile and touch screen support

School Admin Tools

- Solution and test data for DSE exercises
- Student progress tracking (assignments)
- User and group management
- Custom task hosting (Full version required)

C²: “Computational x Critical Thinking”



See you in the coming years ...

HKOI 2023/24 Finalists				
number of candidates				
Schools	Junior	Senior	Total	
Diocesan Boys' School	8	7	15	
Pui Ching Middle School	6	8	14	
Wah Yan College, Kowloon	6	8	14	
Tsuen Wan Government Secondary School	5	4	9	
Sha Tin College	5	3	8	
Sing Yin Secondary School	4	3	7	
St. Paul's Co-educational College	5	2	7	
La Salle College	4	3	7	
Hong Kong International School	3	4	7	
Yan Oi Tong Tin Ka Ping Secondary School	3	4	7	
Chinese International School	3	3	6	
St. Mark's School	3	3	6	
Harrow International School Hong Kong	4		4	
SKH Lam Woo Memorial Secondary School	3	1	4	
Po Leung Kuk Laws Foundation College	2	2	4	
St. Paul's College	2	1	3	
Fukien Secondary School	3		3	
The Independent Schools Foundation Academy	2	1	3	
Diocesan Girls' School	1	2	3	
German Swiss International School	3		3	
King George V School		3	3	
Victoria Shanghai Academy		2	2	
HKUGA College	2		2	
Munsang College (Hong Kong Island)	1	1	2	

Pui Kiu College	2		2
CCC Heep Woh College	1	1	2
Kwun Tong Maryknoll College		2	2
Wah Yan College, Hong Kong		2	2
HKTA Tang Hin Memorial Secondary School		2	2
St. Joseph's College	1	1	2
STFA Tam Pak Yu College	2		2
Lai King Catholic Secondary School		2	2
Heep Yunn School		1	1
Carmel Divine Grace Foundation Secondary School	1		1
Chiu Lut Sau Memorial Secondary School		1	1
Carmel Pak U Secondary School	1		1
N.T. Heung Yee Kuk Yuen Long District Secondary School		1	1
Shatin Tsung Tsin Secondary School	1		1
Heung To Secondary School (Tseung Kwan O)	1		1
Carmel Secondary School	1		1
Baptist Lui Ming Choi Secondary School		1	1
Discovery College		1	1
Tseung Kwan O Government Secondary School	1		1
King's College		1	1
Po Leung Kuk Centenary Li Shiu Chung Memorial College	1		1
Kwun Tong Government Secondary School	1		1
Po Leung Kuk No.1 W.H. Cheung College		1	1
Buddhist Sin Tak College		1	1
Ying Wa Girls' School		1	1
CCC Mong Man Wai College		1	1
St. Paul's Convent School		1	1
Total	92	86	178