

Duzzle

Some things are best said in plain language instead of mathematical notation!
Here's a riddle:

Given $k \in \mathbb{Z}$, and an invertible function $\pi : [1, k] \rightarrow [1, k]$, find a maximal disjoint set of intervals $I \subseteq \text{INTERVALS}(\mathbb{Z})$ such that:

$$\forall [a, b] \in I : \exists i \in \mathbb{Z} : \{ \pi(z) \mid z \in [a, b] \} = [a + i, b + i]$$

is to ("Empodia", 2004) as

You are given $A \subseteq \mathbb{R}^2$. Find:

$$\min \left[\begin{array}{l} b : A \rightarrow \mathbb{Z}_2 \\ c : \mathbb{Z}_2 \rightarrow A \end{array} \right] \max_{d, e \in A} \left(\begin{array}{l} L_1(c(b(d)), e) \\ + \\ L_1(c(b(e)), d) \\ + \\ L_1(c(b(d)), c(b(e))) \end{array} \right)$$

(Note: L_1 is the standard L_1 metric.)

is to...?

TRIVIA

Prior to European settlement, the Brisbane area was occupied by the Jagera and Turrbal Aboriginal tribes.

Many suburbs have been given names originating from the tribes' native languages.

Historically, there has been believed to be as many as 750 distinct Indigenous social groups, each with their dialect.

Some examples from around Brisbane:

- Toowong: Koel cuckoo or place of doves.
- Indooroopilly: Yindurupilly, gully of running water, or Nyindurpilli, gully of leeches.
- Woolloongabba: Whirling water. The suburb is home to Brisbane's cricket ground "The Gabba", named for the suburb.
- Coorparoo: A ground dove (pigeon). The name resembles the note of the cooing bird.
- Mt Coot-tha: (place of) Dark honey. Mt Coot-tha is both a mountain and non-residential suburb. It is the highest peak in Brisbane at 287 metres above sea level. The summit has a lookout and a café and restaurant, and a botanical garden and the Sir Thomas Brisbane planetarium is situated at the base. Transmission towers are also situated on the mountain which broadcast most of Brisbane's television and radio.



The International Scientific Committee (ISC) invites you:

Please provide us your ideas about IOI 2013

To make a better IOI



<http://bit.ly/ioi2013>

CHANGING THE FACE OF THE IOI

The IOI has traditionally been male dominated, a trend Bristy Sikder from Bangladesh is hoping to change. Bristy, who was the only female competitor to medal in the 2012 IOI, says she hopes to inspire other females to start competing in the prestigious computer-programming competition.

"I think if anybody tries, they can do well," Bristy said. "I've talked to some of the girls [in Bangladesh] and I've

been trying to get them to come here, so let's see what happens."

This year's Olympiad has seven girls out of 315 compared to last year's four. Australian Deputy Team Leader and former competitor, Robert Newey, said it was important for young women to see female competitors, such as Bristy, participating. Countries to have a female competitor in their team this year are Austria, Bangladesh, Germany, Macedonia, Mongolia, Tunisia and Venezuela.

by Melanie Keyte



Bangladeshi competitor Bristy Sikder hopes to get her female friends more excited about informatics. Photo: Melanie Keyte



25th International Olympiad in Informatics

6-13 July 2013

Issue seven Saturday 13 July

Newsletter

Outreach program boosts informatics

As the IOI 2013 comes to a close, industry experts are drawing attention to how Australian school students engage in informatics in the national curriculum.

The Queensland Informatics Outreach Program aims to attract more schools to teaching informatics by demonstrating the usefulness of informatics. The Australian Workplace Productivity Agency recently reported that there is a shortfall in the ICT workforce in Australia.

Swinburne University ICT Professor Leon Sterling, chair of the Australian Informatics Olympiad Committee (AIOC), said Australian education needed to focus more on informatics training.

"One of the biggest challenges is for the universities, industry and schools to work together to promote Information and Communication Technology (ICT) as a career," Professor Sterling said.

Australian Deputy Team Leader and former Olympian Robert Newey agreed.

"The Queensland outreach program is for teachers to see the benefits of an informatics program," Mr Newey said.

"Informatics is not really taught at all in high school in Australia.

"They're definitely moving towards the introduction of more computer science in the new national curriculum."

Mr Newey said making improvements to informatics curriculum in secondary education would bolster Australia's position as a serious contender in the IOI.

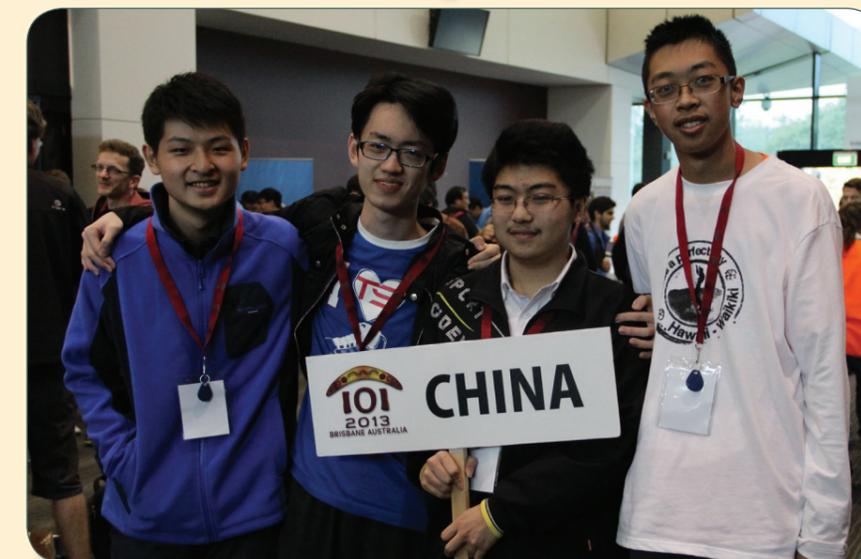
"If we can increase the general knowledge of computer science overall, then we will have a lot more people coming in to the program and a much larger selection of students to choose from," he said.

"Right now we have about two hundred students each year sitting our Australian Informatics Olympiad (AIO).

"If we could increase computer science understanding we should see a vast increase in the numbers for the Australian IOI selection pool."

by Sophie Lester

China leads field of IOI 2013 champions



by Timothy Yuen

While this year's organisers for the International Olympiad in Informatics expected the second day of the examination to be a difficult challenge for most competitors, Lijie Chen from China was able to breeze past his competition to win the IOI.

Will Pettersson, a member of the technical committee said that all three tasks were going to be difficult. "The last task we set them was called 'Game' and that one was definitely a challenge for the students," Mr Pettersson said.

The overall winner of this year's IOI, Lijie Chen from China, recorded a perfect score in the second day of competition and still managed to sleep for an hour of the competition time.

Other competitors who achieved perfect scores on day two were Nikolay Kalinn (RUS), Haoran Xu (CHN), and Hristo Venev (BGR).

"I thought that the problems on day two were easy, so those who did better than me in day one would overtake me but others were not able to solve the 'Game' problem"

Lijie said.

Despite organisers expecting the questions to be difficult, Lijie said he was able to complete the first two problems in one hour and then spent two hours working on the final 'Game' problem.

For the remaining time in the exam, Lijie said he was able to spend the last hour sleeping.

"I was happy to see that I was in first place," he said after seeing the results from the second day of competition.

The rest of team China scored gold medals as well, coming in second, third and eleventh place.

Students who win a gold medal will now be recognised by the informatics community as being some of the brightest minds in their field.

Australia's top placing contestant was Ray Li, who placed 26th overall.

Team China: (From left) Mingda Qia, Lijie Chen, Haoran Xu and Kangning Wang.

Photo: Timothy Yuen

Daily Program

Day 8 Saturday 13 July 2013

25th International Olympiad in Informatics
6-13 July 2013, Brisbane, Australia



Time	Contestants	Leaders	Visitors
06:00	Breakfast See Information table for meal times Colleges		
09:00	Departures Please check out of rooms before 10:00 Transport provided to Brisbane Airport throughout the day Activities throughout the day for guests with later departure times See Information table for details		
12:00	Lunch See Information table for meal times Colleges		
14:00	Departures, continued Activities throughout the day for guests with later departure times See Information table for details		
18:00	Dinner See Information Table for meal times Colleges		

Taiwan hosts plan for 2014

by Kuda Mangoma

After a successful 2013 International Olympiad in Informatics (IOI), thoughts now turn to the 2014 event in Taipei, Taiwan.

Touring ambassador for Taiwan, William Hsu, has been observing the Brisbane Olympiad in Informatics and has learnt a lot to take into next year's event.

Mr Hsu already has a picture of what to expect in Taipei, 2014.

"You can see almost every part of Taiwan in Taipei which I think many people will like," he said.

As a competitor in 1995 and member of the organising committee of Taiwan 2014, Mr Hsu has been to many past IOIs and highlighted what was most significant to his Brisbane IOI experience.

"They solved problems of our travelling, living and dining so we could focus on our work of translating or assisting the competitors," he said.

Taiwan will be the fourth Asian nation to host the event in the competition's history.

The competition's exams will be held at the Taipei World Trade Centre which is near the former tallest building in the world, Taipei 101.

The next IOI will run from July 13-20, 2014.

IOI 2014 chair looks forward to coming year

by Greg Lee, IOI 2014 Chair, Distinguished Professor, National Taiwan Normal University

Dear Friends of IOI,

As another fantastic IOI draws to a close, we would like to invite all to attend next year's IOI in Taipei, Taiwan on July 13-20, 2014.

Taiwan has been an active participant of IOI for over 20 years.

We intend to give back to the IOI community by hosting IOI 2014 with yet another great set of competition tasks, marvelous food, fun excursions and memorable culture trips.

Taiwan is located in the far east of Asia and is well known for her leading role in IT sector. However, that's not all Taiwan has to offer.

From the old mining town of Jiufen to the seaside Fuchi fishing village, from the treasured collection of ancient Chinese arts at the National Palace Museum to modern Franz porcelains, and from exquisite Chinese dishes in the restaurants to authentic Taiwanese delicacies in the night markets, there

are many faces of Taiwan waiting for you to see, to experience and to discover them.

National Taiwan Normal University, as a premier institution in Taiwan, has hosted many Olympiads in the past.

For IOI 2014, we have utilised our experience to put together a unique and comprehensive program.

With the help of government sponsorships, including the Ministry and Education, the National Science Council and Taipei City Government, as well as key corporate sponsors, including Acer, Cisco, China Telecom, we are confident that IOI 2014 will be as successful and memorable as the past IOIs.

So start making plans for IOI 2014.

We guarantee that you will enjoy your stay and discover the heart of Asia in beautiful Taipei!



Competitors celebrate, Aussie style

by Ashleigh Weidmann

Contestants kicked up their heels and partied country style at Cromwell College on Thursday night.

Vegemite was one of the many foods offered during the evening, however many tried it with hesitation.

Contestants and volunteers danced to the Nutbush, painted each others faces in green and gold and blew bubbles throughout the room.

A conga line was enthusiastically created on several occasions and contestants even boogied to the Macarena.

Competitors said it was a great way to blow off steam after a stressful week of competing in the IOI.



Top: Japanese competitor Kohji Liu shows Aussie spirit.

Above left: Contestants trying Vegemite for the first time.

Above right: Red Frog volunteers lead the Macarena.

Left: Volunteers relax after a action-packed week looking after their teams.

Photos: Melanie Keyte