

**E-GENTING PROGRAMMING COMPETITION
2005**

SPEECH BY JONATHAN SEARCY

Fourth draft
Jonathan Searcy
21 January 2006

Good evening, distinguished guests, ladies and gentlemen,

The statistics from the programming competition are these. 151 contestants confirmed that they would attend, up from 142 last year. 112 actually showed up on the day, up from 93 last-year. 101 submitted answer papers. 10 achieved a level of merit or better, compared to 13 last year. A level of merit indicates that the contestants demonstrated a level of problem solving ability in their chosen programming language. Four contestants put themselves in contention for the main prizes by presenting credible answers. A credible answer had to either solve the problem or be likely to solve the problem with a little additional effort. The four credible answers were graded on the difficulty of the questions and the degree to which they were successfully answered and the winners were selected on the basis of those grades.

Overall, the attendance was a better, but the quality of the answers declined.

But Malaysia is in a strong position to recover from that minor setback. Malaysia has a young, energetic, educated population. I think we can be sure that a good many of those young, educated people have the talent to succeed as professional programmers.

My purpose in establishing the E-Genting Programming Competition was to set the standard that those young people need to meet to become internationally competitive. Each question in the E-Genting Programming Competition is based on a real programming task undertaken by E-Genting's Research and Development Department. Each question is also a brand new question so it is not subject to attack from those who might memorise an answer rather than solve the problem.

I understand well the difficulty the academic institutions face when deciding on the content of their courses. It would be nice to fill each course with all the information that the graduates might need in the course of their careers, but to do so would so congest the course that only a few students would be able to cope.

I also understand the commercial imperative faced by the private institutions. If they set the standards too high, only a few pass and if only a few pass, no one wants to enrol. I guess there are similar imperatives of a political kind in the public sector.

Nevertheless, there are critical skills that professional programmers use on a day-to-day basis, and it is clear that more effort needs to go into developing these skills.

Number one on the list for three consecutive years continues to be the skill to write a commercial reporting program. When we set the first reporting program question three years ago, we expected that 70% of the contestants would be able to answer the question. This year only one person in 112 successfully answered it. In 2004 we ran a series of workshops, which devoted two sessions to reporting programs. That year the results were much better. We may repeat the workshops this year to see if we can improve the standard on a more permanent basis.

Another area that continues to need attention is what I would call the enduring principles. These include the nature of computer storage, how data is represented, the methods for converting one form of representation into another, how data is communicated between computers and programming techniques such as well-known algorithms, dataflow

analysis and so forth. The contestants would have found last year's paper easier if they had had a better understanding of these principles.

Last year's competition saw the emergence of a new kind of answer, the 'good answer to the previous year's question'. We identified five contestants who copied the sample answer to one of the previous year's questions with only minimal changes. Needless to say the answer to the previous year's question was not a good fit to last year's problem.

Now there may well be some occupations for which a talent for reciting someone else's spiel may be appropriate, for example, telemarketing. But I can say with some authority that it's not a talent that will be of much help in programming computers. Each computer-programming task is different to the ones that preceded it. If it were not different, we could simply run the program that was written earlier and the programming task would not exist.

The software industry needs people who can find efficient and creative answers to today's problems. We've already solved yesterday's problems. It's today's problems that matter now.

From the day it was conceived, the E-Genting Programming Competition was intended to accomplish multiple objectives. The first was to identify talented people who we would want to employ. The second was to inform both students and academic staff about the types of problems that graduates need to be able to solve and the current level of capability.

It is clear that the message is getting through to some 'early adopters' in the academic community, but convincing the students themselves continues to be difficult. The students are full of grand expectations, but fail to understand that grand achievements are not so much a matter of luck or entitlement, as of hard work and perseverance.

It's akin to the corporate mission paradox. If a company goes out with the mission of making money, it will usually fail to do so. On the other hand, if a company goes out with the mission of creating, say, the best computer systems in the world, it may well, as a consequence of its efforts, accumulate significant wealth.

I like Malaysia very much and would like in due course to be able to stay here permanently. It is a true privilege to be involved in the E-Genting Programming Competition and to be able to circulate among so many committed professors and lecturers.

I would like to conclude by offering my sincere thanks to the universities and institutes of higher education for their continuing support. Without their assistance it would have been impossible for us to run the competition. I would also like to thank Miss Tan Chee Leng who did virtually all the work of organising the competition and Mr Goh Boon Yeow, Mr. Leong Seh Hui and Mr Teh Eng Lee of the Research and Development Department who assisted in marking the papers.

Thank you and I look forward to seeing you next year.