BAPC 2013

Programme booklet

Welcome!

Dear BAPC contestants,

Today is the day you've been waiting for.
Represent your institution in a grab to victory, try to secure your ticket to the NWERC or just have a nice day full of food, drinks and fun while solving algorithmic problems and watching balloon girls. Just like last year, we welcome you to Utrecht and are very pleased and happy to organize the BAPC in our beautiful city at Utrecht University.

Our special thanks go to the judges and the technical committee who have made the problems and set up the system. Without them there wouldn't be a contest.

So put on your shirt and thinking cap; good luck!

Marten Spoor Chairman of the BAPC 2013

Committee

This is the organising committee of the BAPC 2013:

Marten Spoor	Chairman
Stef van Gogh	Secretary
Jonathan Lukkien	Treasurer
Rutger Kerkhoff	Commissioner Extern
Geertièn de Vries	Commissioner Intern
Joran Minjon	Commissioner Sponsoring

These are Computer Science students from the study association A-Eskwadraat; the study association for Mathemathics, Physics, Computer Science and Information Science in Utrecht.

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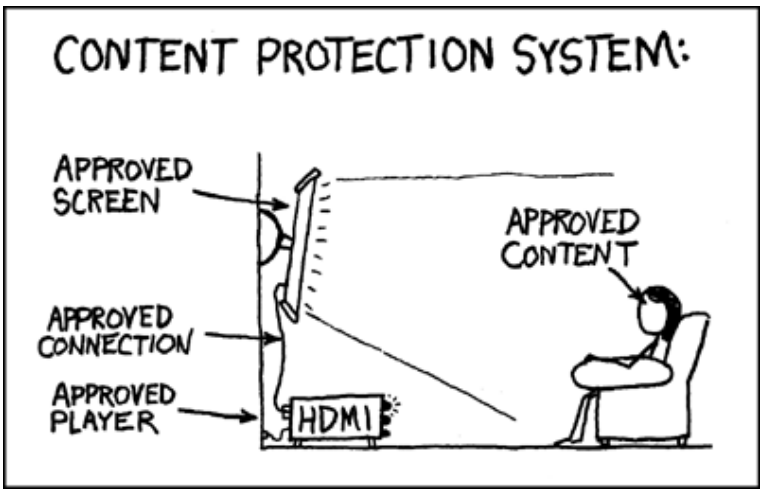

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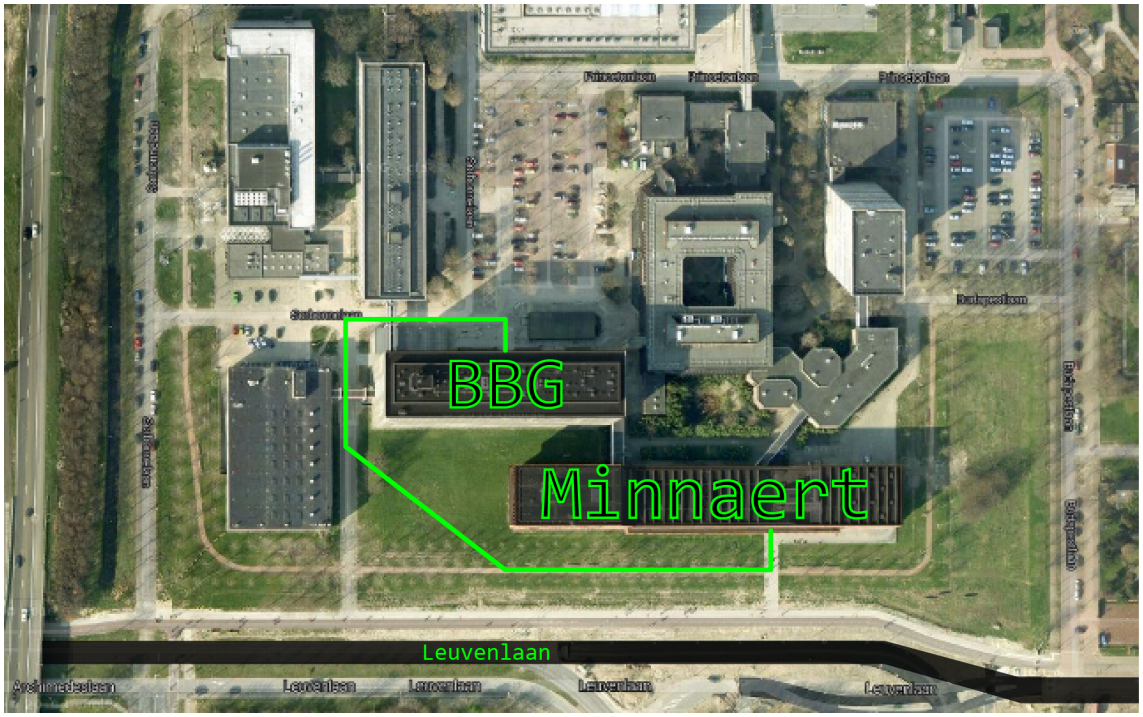
Programme BAPC

This is the programme for today:

Time	What	Location
09:15	Reception	Minnaert building
10:00	Welcome speech	Minnaert upper canteen
10:30	Test session	BBG Study landscape
11:15	Lunch and company market	Minnaert canteen
12:30	Q&A (final oppurtunity for questions)	Minnaert upper canteen
13:00	Start match	BBG Study landscape
18:00	End match	BBG Study landscape
18:00	Drinks	Minnaert canteen
18:30	Awards ceremony	Minnaert upper canteen
19:30	Dinner	Minnaert canteen



Previous winners of the BAPC

Year	Organisation	Winners	Members	Institution
2013	Utrecht University	You?		
2012	Utrecht University	team5	Jan Elffers	TU Delft
2011	TU Eindhoven	Geen Commentaar	Raymond van Bommel, Josse van Dobben de Bruyn en Erik Massop	Leiden University
2010	Leiden University	Joy	Pieter Bootsma, Bauke Conijn en Thijs Marinussen	TU Eindhoven
2009	Groningen University	Doeke en Jelle	Jelle van den Hooff en Doeke de Wolf	University of Amsterdam
2008	TU Delft	Prime Suspects	Thomas Beuman, Johan de Ruiter en Misha Stassen	Leiden University
2007	Twente University	Prime Suspects	Thomas Beuman, Johan de Ruiter en Misha Stassen	Leiden University
2006	Leiden University	Messed Up	Erik-Jan Krijgsman en Boris de Wilde	Twente University
2005	TU Delft	Messed Up	Kamiel Cornelissen, Erik-Jan Krijgsman en Boris de Wilde	Twente University
2004	Utrecht Universitity	Klasse	Bram Fokke en Erik Tillema	Utrecht University
2003	Twente Universitity	Makkelijk zat...	Jaap Eldering, Jan Kuipers en Wouter Waalewijn	Utrecht University
2002	VU Amsterdam	Bug Fiction	Teun Koeman, Mathijs Vogelzang en Phebo Wibbens	Groningen University
2001	TU Delft	Makkelijk zat...	Jaap Eldering, Jan Kuipers en Wouter Waalewijn	Utrecht University
2000	Groningen University	Bug Fiction	Teun Koeman, Mathijs Vogelzang en Phebo Wibbens	Groningen University

More information and history (in Dutch) at:
http://nl.wikipedia.org/wiki/Benelux_Algorithm_Programming_Contest

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www.werkenbijcapgemini.nl

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Rules

Introduction

- The language used during the contest is English.
- The contest lasts for 5 hours.
- From the beginning until one hour before the end of the BAPC the scores will be displayed.

Problems

- The jury will provide at least 8 and at most 12 problems.
- When a problem is unclear a 'clarification request' can be sent to the jury. The jury will respond to this request. If the response is relevant to all teams, the jury will send the response to all teams.
- The jury has the right to change or withdraw problems during the contest. When this happens the jury will inform all teams.

System

- A workplace will be available for each team and all workplaces will be equal in equipment.
- A solution has to be written in C, C++, C++11, C#, Haskell or Java (unless the problem statement explicitly states otherwise). Note that C#, C++11 and Haskell are not allowed during the NWERC.
- The jury decides per programming language which libraries and function calls are allowed to be used in the solutions.
- All prints made by the teams will be brought by a runner. Participants are not allowed near the printers.
- A team is allowed to bring up to 25 A4-sized pages, printed one-sided or up to 12 A4-sized pages, printed two-sided, of documentation. Each team member is allowed one identical copy.
- A team is allowed to bring a dictionary; English to their native language.
- A team is not allowed to bring any kind of software.

Department

- The house rules apply to everybody inside the building.
- Inside computer rooms eating, drinking, smoking and talking in a loud voice is not allowed.
- The use of hardware which is not approved by the organisation, is strictly forbidden. This includes all calculators and smartphones, but exceptions are made for simple watches and medical equipment.
- Changing of hardware or operating software is strictly forbidden.
- During the contest, communication within the team and crew is allowed. Communication with everyone else is forbidden during the contest.
- Participants will follow orders given by the crew.
- Participants will wear the shirt and badge provided by the organisation. Company members are allowed to wear a shirt with a clear company logo on it.

Judgement

- Each submission is acknowledged.
- For each problem the jury has a correct solution and test data.
- A submission is correct when it has a solution to the input in a time limit decided by the jury and the output is the same as the output of the jury (unless the problem statement explicitly states otherwise). This time limit is not announced to the teams.
- The winner of a pool is decided by (in order):
  1. The team with the most correctly solved problems.
  2. The team with the least solving time. This is the sum of the time needed for every solved problem (defined as the time between the beginning of the contest and the submission of the first correct solution), plus a 20-minute penalty for each wrong submission until the first correct submission. Incorrect solutions for which a team has not submitted a correct solution or incorrect solutions submitted after a correct solution was accepted, do not add to the solving time.
  3. The team that first submitted its last accepted problem is ranked higher. In case a tie still remains, the team that first submitted its next-to-last accepted problem is ranked higher, and so on. In the event that this does not resolve the tie, the ranks will be determined by chance.
- The jury is responsible for everything that has to do with the problem set and can be contacted for this through the ‘clarification requests’.

Special rules

- The organisation has the right to disqualify teams for misbehavior or breaking the rules.
- The organisation has the right to stop the contest, extend the contest time, temporarily block submissions for all teams or change the scores in exceptional conditions.
- In situations to which no rule applies, the organisation decides.

Puzzles

Create a number x using only the digits 4, 4, 3, 3, 2, 2, 1 and 1. So x can only be eight digits. You have to make sure the ones are separated by one digit, the twos are separated by two digits, the threes are separated by three digits and the fours are separated by four digits.

What is the next number in this series? 6, 14, 36, 98, 276, . . . ?

Using only two 2's (no other numbers like π) and any combination of these functions and symbols $\{*, /, +, -, \sqrt{}, x^y, ., (,)\}$, can you make a mathematical equation equivalent to 5?

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Thanks

These people have been of tremendous help and we absolutely could not have done it without them. A big thanks from the entire committee to:

Jury

Thijs Marinussen - Chairman
Thomas Beuman
Pieter Bootsma
Jeroen Bransen
Stijn Duijzer
Tigran Gasparian
Bas den Heijer
Ruud Koot
Jeroen van Wolffelaar

Tech

Willem den Besten
Johan Dorland
Leon Oostrum
Rob van de Werken

Balloon girls

Iris, Jeemijn, Judith, Kyo, Madzy, Mariken, Mijke, Nina, Stella, Susan and Tinka

Special

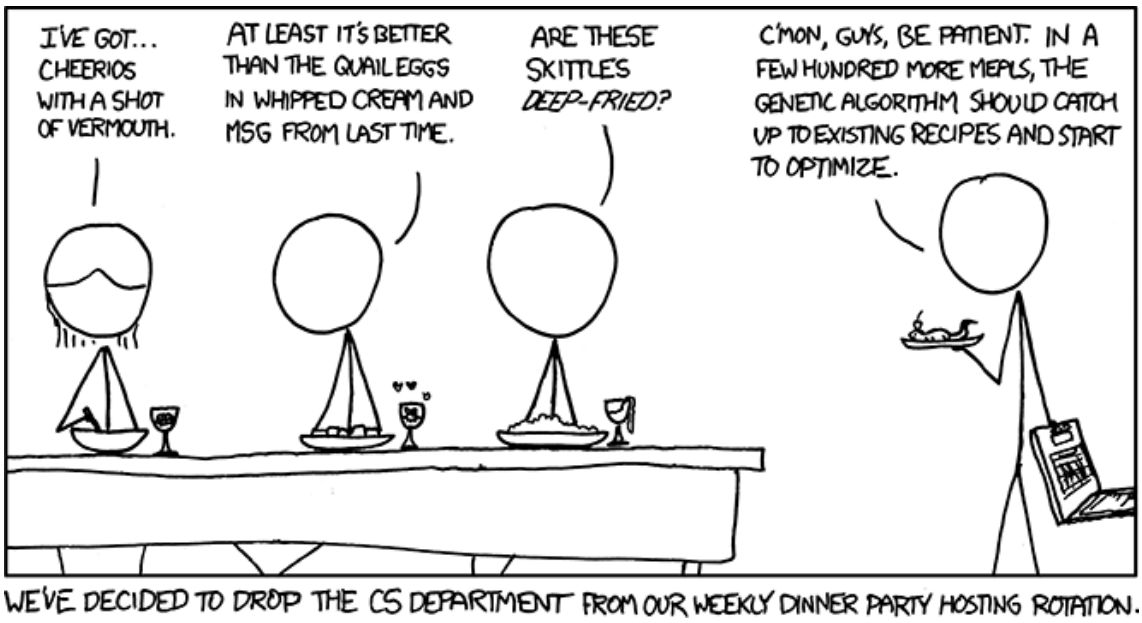
Our study association A-Eskwadraat
ICT Bèta and ICT Servicecentrum
BAPC 2012 for wise advice
Department Computer Science of Utrecht University
Our sponsors

The jury thanks:

Thomas van Dijk

Other thanks

A special thanks on behalf of the committee goes to all the kebab parlours in Utrecht for providing us with food during our meetings.



26th of October
Utrecht,
the Netherlands