

Classification of Computer Science Competitions

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Why Classification?

Classification allows to

- talk about things
- learn about things
- make differences and see commonalities

Contest Space: Projects vs Tasks

Project Contest

- problems are freely chosen (perhaps with a given theme)
- Examples: Jugend forscht / Young Scientists, IEEE CSIDC, Robocup (?)

Task Contest

- a set of tasks is given
- closed solution space (more or less)
- Examples: IOI, ACM ICPC, USACO, ACSL contest, BWINF, ...

Contest Space: Long Time vs Short Time (Exam)

Long Time Contest

- work on projects / task solutions for a long time
- Examples: project contests, BWINF

Short Time (Exam) Contest

- (very) short time given to contestants
- work in an exam situation (under observation, with strict rules)
- Examples: many task contests (IOI, ACM ICPC, ...)

Contest Space: Automatic vs Manual Grading

Automatic Grading

- fully automated grading procedure (done by a computer)
- Examples: IOI, ACM ICPC

Manual Grading

- done by jury member(s)
- Examples: Young Scientists

Schematic Grading

- done by jury member(s), but following a given scheme
- Examples: BWINF, IMO (?)

Grading by Comparison of Performance

Contest Space: Scientific Area

- Robotics: Robocup (Junior), First Lego League
- Chip Design: Invent a Chip
- Algorithmics: IOI, ACM ICPC
- Mixed: ACSL contest, BWINF, Beaver
- Several: Imagine Cup, TopCoder
- Open: Young Scientists

Contest Space: Other Features

- for task contests: answer format (result only, multiple choice, explanations)
- age divisions (e.g. ACSL contest; no division leads to “elite” competition)
- difficulty divisions (e.g. USACO)
- gender-specific (e.g. YWPC of New Zealand)