



Kids Programming Marathon: A Step toward Better Engagement with Computer Science Education

MAYA TAKI, AMMAR ALNAHHAS

Outlines

- KPM Competition
- KPM Divisions and Phases
- KPM Objectives
- Task Types
- Statistics
- Observations

Kids Programming Marathon

■ Motivation

- Importance of CS education for children
- Competition is a good tool for education
- KPM is inspired by the needs of the future CS career.

■ Target participants

- 8 to 15 years old student.

■ Criteria

- Logical tasks
- Visual programming (Scratch)
- Traditional programming

KPM Objectives

- Support teaching computer science at school.
- Support national community.
- Encourage outstanding students.
- Support youth ability to find solution for problems.
- Show a learning model for CS education.
- Train and prepare at early ages for competitions like IOI.

KPM Divisions and Phases

■ Divisions

- Juniors 8 - 11
- Seniors 12 – 15

■ Phases

- Phase 1: Qualification test for all participants.
- Phase 2: Semi-final test.
- Phase 3: Final test.

Task Types

- **Type selection is inspired by the goals:**
 - Creativity
 - Problem solving capabilities
 - Logical thinking
- **Logical tasks**
 - Does not need training.
 - IQ tasks for the first phase.
 - Bebras style tasks for the second and third phases.

Task Types

- **Interactive visual Programming**
 - Scratch tasks.
 - Designed with algorithmic background.
- **Textual programming**
 - First division: Output tasks.
 - Second division: Traditional style, IOI style.

Marking Schema

■ First division

- 65% interactive programming
- 20% logic tasks
- 15% textual programming

■ Second division

- 35% interactive programming
- 20% logic tasks
- 45% textual programming

Statistics-Average Marks

Logical tasks	Scratch	Programming	Total average
50.65%	33.8%	36.84%	37.63%

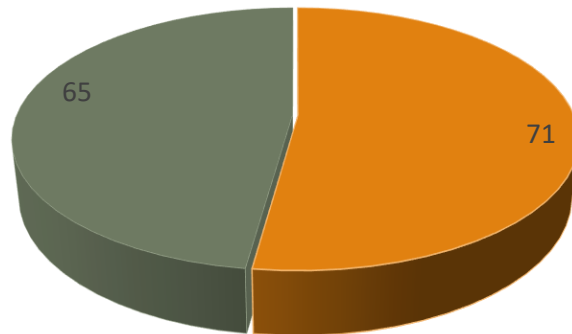
First division

Logical tasks	Scratch	Programming	Total average
80.17%	41.63%	21.55%	41.31%

Second division

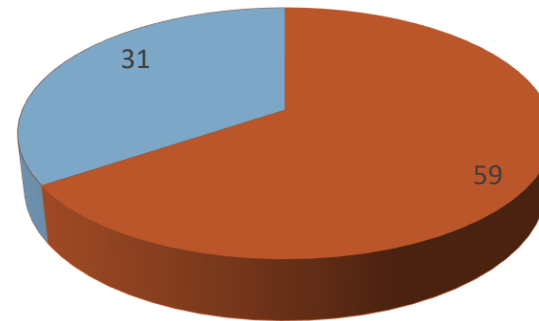
Statistics – Gender distribution

First division



■ Male ■ Female

Second division



■ Male ■ Female

Observations

- High participation numbers.
- Different supporting organizations: Syrian virtual university, ministry of education, Distinction and creativity agency and Syrian computer society.
- CS education enhancement.
- Pre-IOI contest.



Thank you