

TECHNOXIAN

WORLD ROBOTICS CHAMPIONSHIP
EGYPT



Problem Solver Python

The Problem Solver Python challenge is designed to test participants' ability to apply Python programming skills to solve real-world problems. This competition emphasizes logical thinking, problem-solving techniques, and coding efficiency. Participants will be presented with a series of progressively challenging problems that require not just coding knowledge but also strategic problem-solving and logical reasoning.



Objectives

- 1** Enhance participants' problem-solving abilities through Python programming.
- 2** Encourage efficient coding practices and logical thinking.
- 3** Test participants' understanding of Python fundamentals in practical scenarios.
- 4** Promote teamwork and collaboration among participants.
- 5** Provide an opportunity to tackle real-world problems using Python.



Who can apply..?

We encourage you to apply if you meet our eligibility criteria and other requirements.

Age Group

Junior division (10-13 years)

Senior division (14-17 years)

Team Composition

Team members should be at maximum 3 members guided by a Coach.

Participants may also choose to enter **individually**



Competition Rules

1- Rounds:

- The competition consists of three rounds, each becoming progressively more challenging.
- Each round lasts **one hour**, with a 15-minute briefing period before the round to explain the challenge and answer participants' questions.

2- Software:

- Participants can work on any offline Python editor, such as VS Code, PyCharm, or similar.
- Internet access is not allowed during the rounds.

3- Collaboration:

- Unauthorized collaboration with non-team members is strictly prohibited and may result in disqualification.

4- Evaluation:

- Judges will manually review the code created by each team after the round is completed. It will be evaluated based on specific judging criteria.
- Teams will explain their work to the judges after each round.



Topics Covered

Junior

- Data Types and Variables
- Type Conversion
- Input/Output Handling
- Operators (Arithmetic, Comparison, Assignment, Logical)
- Conditional statements (if, Elif, else) & match statements for decision-making.
- For and while loops
- Lists and Dictionaries and their methods
- String Manipulation
- Defining and calling functions with parameters and return values.



Topics Covered

Senior

This category includes all topics covered in the Junior Category, with additional advanced topics:

String Module

Random Module:

- Basic Random Number Generation (Generating Random Integers and Floats)
- Random Selection (Choosing Random Items from Lists)
- Using Loops with Random Module for Repeated Tasks
- Customizing Random Output (Shuffling, Random Sequences)

Tkinter Module:

- Creating Basic Windows and Widgets (Labels, Buttons, Entry Fields)
- Handling Events and User Input
- Layout Management (Grid, Pack, Place)
- Building Interactive Applications (Simple Forms, Calculators)
- Advanced Tkinter Widgets (Canvas, Menus, Frames)



Judging Criteria

The judges will meet with the team to review their programming work, and points will be awarded based on the following criteria

Criteria / Points	Full Marks (30 points)	Partial Marks (15-29 points)	Low Marks (1-14 points)
Solution Correctness	The solution meets all the requirements and passes all the test cases.	The solution meets most of the requirements and passes most of the test cases.	The solution meets few requirements or passes few test cases.
Code Quality, and Readability	The code is well-structured, follows clean code principles, and includes clear comments.	The code is generally well-structured with minor readability issues or lacks sufficient comments.	The code is poorly structured with significant readability issues and unclear or few comments.
Criteria / Points	Full Marks (20 points)	Partial Marks (10-19 points)	Low Marks (1-9 points)
Code Explanation	The participant clearly explains their approach, logic, and answers questions effectively.	The participant explains their approach but misses some details or struggles with questions.	The participant provides a vague explanation and struggles with questions.
Bonus Implementation	The participant implements the bonus part effectively, showing advanced problem-solving skills.	The participant makes a good attempt at the bonus part, with minor issues or partial implementation.	The participant attempts the bonus part but does not complete it effectively.

Contact Us



Technoxian Website



Technoxian Instagram



+201060747571

TECHNOXIAN
WORLD ROBOTICS CHAMPIONSHIP
EGYPT

