

## **Source Code**

### **Trail Event – WOSO Elementary Science Olympiad**

1. **Description:** This event combines computer science and mathematics to solve problems. The objective is to answer related to computer concepts, logic and mathematical problem solving using computers.

**Team Size:** Up to 2

**Impound:** None

**Eye Protection:** None

**Approximate Time:** 30 mins

#### **2. Event Parameters:**

- a. Each team will be given a written test with 30-60 questions and a scantron to answer the questions.
- b. Teams will be allowed to bring one 3" x 5" index card (both sides) of notes.
- c. The programming language will be used is Python.
- d. Test may be conducted as station based.

#### **3. The Competition:**

- a. Students should know basic syntax of Python programming language, computer programming concepts and mathematical concepts.
- b. Python programming concepts:
  - i. Types and functions
  - ii. Arithmetic operations
  - iii. Control flow/Logic
  - iv. Data Structures
  - v. Import statements/libraries
- c. Mathematical topics:
  - i. Order of operations, Powers, Factorials, Statistics
  - ii. Areas and Volumes of shapes
  - iii. Prime Numbers
  - iv. Fibonacci Numbers
- d. Computer Hardware & Software Concepts:
  - i. Basics of computer hardware and architecture
  - ii. Programming basics
  - iii. Hardware & Software Terminology

#### **4. Scoring:**

- a. High score wins

5. **Tie-Breaking:** Students will be given a problem to write code to solve a problem and this will be used as tie-breaking. Code with few lines of code and comments will be scored above others.