

MIDWEST COLLEGIATE COMPUTING CONFERENCE

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www.mwc3.org

MWC³

Python Development

Sponsored by: *Atomic Object*

Competition Overview and Components

The Python Competition gives teams the chance to demonstrate their programming skills to fill a company's needs using unique code, rather than Commercial off the shelf (COTS) solutions, giving a company a strategic advantage.

Teams will be given a problem statement at the beginning of the Competition time that will explain a company's unique requirements. Time will be allowed to read the problem statement and ask any questions in a common session. Once the question and answer time has closed, no further questions will be answered. At the end of the Competition period, each team will be asked to submit a copy of their solution (all source code/resources and compiled application) for judging.

Team Composition

Individuals or teams of 2 students can register for this competition.

Skills

Python programming, Object-Oriented programming, module creation and use, refactoring, ability to properly document code with docstrings, JSON, REST API familiarity.

General Skills

- Exception handling
- Code Documentation
- Classes and Object-Oriented design principles
- Events and Handlers
- Data import, export, access, binding, connections, and manipulations

- XML / JSON
- Web knowledge/REST familiarity
- Output (Printing, PDF, Reports, or HTML formatted output)
- Encryption, decryption
- Three tier approach / MVC (data/model, interface/view, and business/controller)
- Database connections / create, read, update, and delete

Scoring

Your submission must compile in order to be evaluated. A scoring rubric will be distributed with the problem statement at the beginning of the Competition time. General evaluation will be:

- Completion of requirements 80%
- Code Documentation 10%
- Application Documentation 10%

In the event of a tie, Code Documentation and the use of Object-Oriented Approach will distinguish differences.

Schedule

See Competition schedule for Competition time and place. The time will include Competition overview, Competition work, and turn in.

Check in will begin 20 minutes before the Competition begins.

Resources

- Each team must have at least 1 computer to complete your project
- A general Text Editor as well as PyCharm can be used.
- All projects can contain additional packages from pip
- All projects must use Python 3.10 or higher
- HTML code can be developed using HTML5
- Internet access is allowed for research, although you must write your own code.